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An Examination of the Use of Data from Existing Navy Records and Data Bases as Indicators of Human Resource Management Needs and Operational Resources

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Completed under Office of Naval Research Contract Number N00014-77-C-0123 S. B. Sells, & L. R. James, Principal Investigators

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Ten existing Navy data systems were review	
ity of employing data from existing Navy record	
Human Resource Management needs and as indicate	
Possible data sources were identified and personal characteristics of the data system were intervi-	
The results of the investigation suggested	
sources as indicators is feasible but a consider	erable amount of additional

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research would be required before these existing data sources could be categorized as reliable and valid. The extensive information collection system already in use as part of various Navy data systems suggests that steps to increase data reliability for use as human resource or operational readiness indicators are to be preferred over developing new data systems.



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INTRODUCTION

This report addresses one of the objectives of an Office of Naval Research sponsored project entitled "An assessment of needs for human resource management and the development of principles and guidelines for management and development of enlisted personnel." The original objective was to examine the <u>feasibility</u> of employing data from existing Navy records and data bases to identify Human Resource Management (HRM) needs. In the course of the feasibility study, recommendations from personnel knowledgeable about HRM programs served to place some additional boundaries on the data to be examined. It was suggested that attempts be made to identify sources of information or "indicators" that not only signified needs for HRM programs, but that could also be used as indicators of "operational readiness." While this limited the scope of possible indicators for HRM need assessment to some extent, it nevertheless focused on two salient concerns of the Navy at the time of the project.

The general approach followed in this feasibility study was to identify possible data sources and then to interview personnel knowledgeable about the characteristics of the data system. It was not possible in the time available to explore all aspects of a data system, but it was possible to explore different types of systems in use by the Navy. It was gratifying to find that all Navy personnel interviewed were extremely helpful as well as eager to see if the data about which they were knowledgeable could be employed for the designated purposes.

The major domains of indicators addressed in this report are:

Status of Naval Forces (NAVFORSTAT)

Casualty Reports (CASREPTs) and Ships Maintenance

Navy Maintenance and Material Management Program (Ships 3-M System)

3-M System Data for Aircraft

Accident and Safety Information

Non-Judicial Punishment (NJP)

Service History File for Enlisted Personnel (Change Tape)

Medical History File

Propulsion Examining Board

Retention Data

The information presented for each indicator domain was generally arranged according to the following format:

- I. Description of Information
 - a. Overview
 - b. Examples of Types of Variables
 - c. Sources of Information
 - 1. Original data base
 - 2. Edits performed on data
 - 3. Form in which information is presently available
 - 4. Lag-time between occurrence of events and report of data
- II. Psychometric Properties
 - a. Areas of most confidence
 - b. Sources of potential bias and problems
- III. General Remarks
- IV. Attachments

This is a general outline, and was amended when necessary. Not all of the categories were included in every discussion, and a narrative format was employed in several instances.

I. Description of Information

a. Overview

NAVFORSTAT is part of a system for reporting the combat readiness and mission areas readiness for NAVY units based upon coded measures in the following four resource areas: (a) personnel; (b) equipment and supplies on hand; (c) equipment readiness; and (d) training. A fifth rating of overall readiness is also provided.

Combat readiness ratings (C-ratings) are made daily for each of the four resource areas by the commanding officer for specified combat and combat support organizations (see OPNAVINST 3501.66). Mission area readiness ratings (M-ratings) are provided in a similar manner for each primary mission area (see OPNAVINST).

The possible C-ratings for each of the above four resource areas and the overall readiness rating are: Cl -- fully ready; C2 -- substantially ready; C3 -- marginally ready; C4 -- not ready; and C5 -- not applicable or not required to report. In addition, one resource area reason code is required if a resource area rating is other than Cl or C5 (see below). The overall readiness rating may include primary, secondary, and tertiary reason codes as well as projected attainment dates and any readiness rating limits that the organization may possess.

b. Examples of Variables

A set of reason codes, which reflect reasons for deficiencies leading to ratings of C2, C3, or C4 are provided for each of the four resource areas.

Examples of reason codes for each of the four resource areas are presented below:

Resource Area

Sample Resource Area Reason Codes

Personnel

Casualties

Personnel Shortage Crew Chief

Personnel Shortage Enlisted

Personnel Shortage Officer

Supplies, Equipment on Hand

Aircraft not fully equipped

Aircraft operational loss/combat loss

Allowed equipment never received

Awaiting critical modification

Supply shortage

Equipment

Damaged/Inoperative auxiliary machinery

Damaged/Inoperative equipment-communications

Damaged/Inoperative system propulsion

Not Operationally Ready Maintenance (NORM)

- aircraft communication

Not Operationally Ready Supply (NORS)

- aircraft instruments

Training

Inadequate - onboard training devices

Inadequate - school quotas

Inadequate - training areas

Insufficient - crews combat-ready

Tests - unsatisfactory readiness

c. Sources of Information

Original Data Base

Ratings are made by commanding officers of specified combat and combat support organizations. The ratings are submitted to the Type Command (TYCOM). A message format is used to convey the ratings.

2. Edits on Data

Information is classified, and thus this question was not pursued.

3. Form in White Data are Presently Available

Not applicable.

4. Lag-time

Information is submitted on a daily basis.

II. Psychometric Properties

a. Areas of Most Confidence

See General Remarks

b. Sources of Potential Bias and Problems

This report, like several others discussed in this paper, is of a subjective nature and relies, in large part, upon the judgment of the commanding officer. As such, it can be influenced by pressures exerted for the ship to be classified as operationally ready.

III. General Remarks

Substantial efforts have been expended to identify relationships between NAVFORSTAT ratings and other indicators of operational readiness (i.e., M-ratings, Casualty Reports). A logic decision tree is being designed within the Navy to serve as a performance aid in decision-making and use of the reason codes.

IV. Attachments

Sections 5 and 6 of OPNAVINST 3501.66, Operational Reporting, NAVFORSTAT, are included. These sections include all the resource area reason codes associated with each resource area. A description of the overall readiness rating and the M-ratings is also included.

OPERATIONAL REPORTING NAVFORSTAT



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SECTION 5

READINESS STATUS DATA

5.1 PURPOSE. This section describes the data labels and procedures for reporting overall and resource area readiness.

5.2 SCOPE

- a. Readiness status data will be reported by combat and combat support organizations specified in paragraphs 1.2b(1) through (20) of this instruction.
- b. Limited reporting by new construction units, decommissioning or inactivating units, activities in regular overhaul or conversion or units assigned post shakedown availability, fitting out availability, or restricted availability for 90 days or longer, report as described in paragraph 5.3b of this section or as directed by the type commander.
- c. Readiness status data is always submitted in compound data elements. All data fields applicable to these elements must be filled when submitting a report.

5.3 C-RATING (READINESS RATING)

a. The following codes are used to describe resource area readiness:

Code	General Definition
Cl	Fully Ready - The organization is capable of effectively performing in all assigned primary mission areas.
C2	Substantially Ready - The organization has MINOR deficiencies which reduce its effectiveness in one or more primary mission areas; however, these degradations do not cause a loss of any primary mission area.
С3	Marginally Ready - The organization has MAJOR deficiencies which reduce its effectiveness in one or more primary mission areas; however, these degradations do not cause a loss of more than one primary mission area.

- Not Ready The organization has deficiencies worse than C3, and, for all practical purposes, causes a loss of two or more primary mission areas.
- C5 Not Applicable/Not Required to Report.
- b. Code C5 is not a readiness rating, but is used to identify the fact that a readiness rating is not required. C5 may only be reported for the measured resource areas Equipment and Supplies on Hand (CRSUP), Equipment Readiness (CREOP) and Training (CRTNG). It is applicable in the following situations:
- (1) Regular overhaul or conversion. Unit should report C4 overall, "X" as primary reason code and C5 in all measured resource areas, except Personnel. Personnel Readiness should be reported in accordance with the criteria contained in Annex A, Section 5.
- (2) Fitting Out Availability, Post Shakedown Availability, Restricted Availability for 90 Days or Longer. Unit should report C4 overall, "X" as primary reason code and C5 in all measured resource areas, except Personnel. Personnel Readiness should be reported in accordance with the criteria contained in Annex A, Section 5.
- (3) New Construction. Limited reporting should commence the date of commissioning. Unit should report C4 overall, "X" as primary reason code and C5 in all measured resource areas, except Personnel. Personnel Readiness should be reported in accordance with the criteria contained in Annex A, Section 5. Upon in-chop to the Type Commander after departure from building yard, full reporting in all areas should be started.
- (4) <u>Decommissioning</u>. Units undergoing decommissioning or inactivation should be deleted from the NAVFORSTAT reporting system upon reporting to the decommissioning or inactivating activity, or as directed by the Type Commander.
- c. It should be noted that the C-ratings assigned to describe resource area readiness must be consistent with the C-ratings assigned to casualty reports (CASREPTS) by the reporting organization. For example, if a material CASREPT was submitted with a C-rating of C3, then the resource area of equipment must be reported as C3 in NAVFORSTAT. The same relationship exists between casualty reports personnel (CASREPT PERS) and the NAVFORSTAT resource area of personnel.

5.4 READINESS RATING CRITERIA

- a. The following guidance is given to make explicit some of the considerations of the commander in making an assessment of the overall readiness of his organization. However, it is emphasized that the commander's judgment of his organization's ability to perform its mission effectively is paramount. The readiness level of all four measured resource areas are to be considered among other factors in assessing overall readiness. Some of these other factors are:
 - (1) Day-to-day performance in primary mission areas.
 - (2) Post deployment stand down.
 - (3) Morale.
 - (4) Actual qualification of individuals.
 - (5) Environment.
- b. The readiness reporting in resource areas considers deficiencies in resources and the impact of these deficiencies on the primary mission areas. (Primary mission areas reporting is explained in section 6 of this instruction). For the foreseeable future, the readiness criteria will consist of a mixture of both causes and effects. The four resource areas in which deficiencies occur and which are to be rated are:
- (1) <u>Personnel</u>. This resource area rating compares the assigned strength of a unit against its structured (M+12) or organizational manning. It includes the availability of key and critical specialties and distribution of personnel by rates and ratings.
- (2) Equipment and Supplies on Hand. This resource area rating compares mission essential equipment and supplies on hand (regardless of operating condition) against allowance for the unit being rated. It includes, but is not restricted to, major equipment, backup equipment, consumables, spares, tools, repair parts, test equipment, portable operational equipment, ammunition, and fleet issue loads.
- (3) Equipment Readiness. This resource area rating compares the availability and operating condition of mission essential equipment against the allowance for the unit.

- (4) Training. This resource area rating compares unit training against the prescribed type commanders standards for the unit being rated. Results of training exercises, evaluations, operational readiness inspections, technical proficiency tests, and the like will be considered in estimating the unit's training readiness rating.
- c. The following considerations pertaining to the resource areas must be emphasized.
- (1) The effect on readiness of personnel basic and technical training are included in the personnel resource area through availability of key and critical specialties (NECs). On-the-job training, indoctrination for watches, job routine, and other types of individual training performed at the duty station should not be measured under personnel, but will affect the resource area of training.
- (2) The lack of allowed mission essential equipment will degrade the resource readiness in both areas of equipment and supplies on hand and equipment readiness. Degradation of resource readiness ratings in both resource areas for missing equipment is consistent with current JCS requirements, whether the mission essential equipment is hull mounted, aircraft or smaller equipment. Equipment readiness levels must include both missing equipment, and equipment on hand but not working, and the impact on primary mission areas. Nonavailability of equipment programmed for future installation should not be considered in determination of this readiness rating.
- (3) The extent of deficiencies in each resource area is estimated. In personnel, appropriate fractions are calculated; in other resource areas, the estimate is "insignificant," "minor," "major," or worse.
- (4) The extent of the degradations caused by each deficiency is estimated--again as "insignificant," "minor," "major," or worse.
- (5) Aircraft squadrons calculate the fraction of aircraft assigned to the number authorized for equipment and supplies on hand, and the fraction of operationally ready aircraft to the number authorized for equipment readiness.
- (6) Detachments formed from the resources of a parent organization and for the purposes of deployment shall measure their resource area criteria against the assets assigned on the date of the deployment. Correspondingly, the parent

organization shall measure their resource area criteria against their assets remaining and submit a narrative remark stating what assets have been reduced by assignment to detachments. This consideration is for equipment readiness status reporting, only, and does not affect other sections (i.e., personnel or equipment) of this instruction.

5.5 READINESS INFORMATION TO BE REPORTED

- a. Readiness information is reported in five categories: overall, personnel, supply, equipment, and training. The latter four categories are referred to as resource areas.
- b. A current C-rating is required in each of the four resource areas. A resource area reason code (table 5, appendix A) is also required if the current C-rating is other than Cl or C5. Only one resource area reason code may be submitted for each resource area. Reports would be similar to one of the following:

DATE	LABEL	CURRENT STATUS		RESOURCE AREA REASON CODE
(1)	CRPER	С3	1	P19
(2)	CRSUP	Cl		
(3)	CREQP	C5		
(4)	CRTNG	C3	1	TO9

Narrative comments should be submitted in PART II to explain degradations.

c. Overall readiness, (CROVL), is reported as a compound data element which contains some or all of the information in the following format:

DATE LABEL	CURR		PROJ STAT		PRI KEASON CODE		SEC REASON CODE		TEPTIERY REASON CODE		PPOJ ATTAINMENT DATE		READ PATING LIMIT
CROVL	xx	1	xx	1	x	1	xxx	1	xxx	,	xxxxxx	,	xx

(1) <u>Current Status</u>. A current overall C-rating status is required whenever the element CROVL is reported. It represents the subjective opinion of the reporting commander and, therefore, may differ from the lowest C-rating reported in the resource areas.

- (2) Projected Status. A projected C-rating is required only when a change (improvement or degradation) can be predicted. If no prediction can be made, the value "UNK" must be inserted.
- (3) Primary Reason Code. This code identifies the most significant resource deficiency causing a degradation in overall readiness (less than Cl). Under normal circumstances, this code will depict a personnel (P), supply (S), equipment (R), or training (T) deficiency. (table 4, appendix A) In the event a commander estimates overall readiness to be different from the lowest resource area rating, a primary reason code of "X" is used. When an "X" is used, a narrative remark is required in PART II. If the resource area ratings are all Cl, the value "UNK" must be inserted in this field.
- (4) Secondary Reason Code is a 3-character alphanumeric (table 5, appendix A) which identifies the next most significant reason for degradation of overall readiness. The secondary reason code cannot be the same reason code used in the resource area identified by the primary reason code. For example, if the resource area of P (personnel) is used as the primary reason code, and the reason the resource area of personnel is degraded is Pl1, then the secondary reason code cannot be Pl1. If this field is not used, the value "UNK" must be inserted.
- (5) Tertiery Reason Code is a 3-character alphanumeric (table 5, appendix A) which identifies the next most significant reason for degradation of overall readiness. If this field is not used, the value "UNK" must be inserted.
- (6) Projected Attainment Date is a 6-character numeric YYMMDD, that is required whenever a projected status is reported. If no change is predicted, the value "UNK" must be inserted.

(7) Readiness Rating Limitation

- (a) Readiness rating limitation is reported by an alpha-numeric code indicating the resource area and limitation imposed on a particular organization by its type commander. The alphabetic codes P, S, R and T (table 4, of appendix A) and numeric codes of 2, 3, and 4 (readiness levels) are the only codes which may be used.
- (b) Budgetary or other restrictions may require a commander to allocate resources in such a way that certain

organizations are unable to reach the personnel manning or equipment levels needed to be fully capable of performing the mission for which the organization is designed or tasked. In these cases, the type commander will determine the highest C-rating an organization may expect to attain and provide this rating to the organization for submission in the NAVFOPSTAT report as the organization's readiness rating limitation. Individual organizations are not authorized to report a readiness rating limitation without authority from the cognizant type commander.

- (c) Organizations which have been assigned a readiness rating limitation cannot report overall readiness higher than the limitation imposed unless the primary reason code of "X" is used. The primary use of the readiness rating limitation code is to indicate to higher authority that resources are not available and that a rating of Cl cannot be expected.
- (d) If no limitation is imposed, the value "UNK" must be inserted.

5.6 DATA LABEL TO BE PEPORTED

DATA LABEL

DATA LABEL DESCRIPTION

a. CROVL

Overall Readiness

Particular attention must be paid to updating attainment dates and to the impact of other readiness data label reports on the data label CROVL.

b. CRPER

Personnel Readiness

c. CRSUP

Equipment and Supplies on Hand

d. CREQP

e.

CRTNG

Equipment Readiness

Training Readiness

f. Reporting examples:

(1) Normal report:

NAVFORSTAT 013 AS OF 0512002 MAY 74 CVA 67 KENNEDY J F/N03367 PART I

CROVL C3/C2/P/R10/S32/740530/P2
CRPER C3/P19
CRSUP C2/S32
CREOP C2/R10
CRTNG C1
PART II
CROVL PERSONNEL SHORTAGE LIMITS MY CAPABILITIES IN AAW AND MOB//
CRPER SHORT 30 MM/BT
CRSUP AM FUNDED TO RANGE AND USAGE ONLY//
CREOP CASREPTS: (CASREPTS LISTED AS APPROPRIATE)//

(2) No projected status attainment date and tertiary reason code:

NAVFORSTAT 078 AS OF 151000Z MAY 74
DDG 33 PARSONS/N04665
PART I
CROVL C2/UNK/S/P37/UNK/UNK/S2
CRPER C2/P37
CRSUP C2/S32
PART II
CROVL LIMITED TO RANGE AND USAGE//
CRPER SHORT NECS 2342, 0493, 0892//
CRSUP TYCOM ALLOCATION LIMITS SUPPLY TO C2//

(3) Overall C-rating different from the lowest resource area rating (Primary reason area code "X"):

NAVFORSTAT 079 AS OF 151000 Z MAY 74
DDG 33 PARSONS/N04665
PART I
CROVL C2/C1/X/P37/S32/730720/S2
CRPER C3/P37
PART II
CROVL SHORT NECS BUT HAVE TRAINED PERSONNEL
CAUSING ONLY MINOR DEGRADATIONS IN MISSION AREAS//
CRPER MISSING NECS 2156 33194 0314 1234//

NOTE: In the example above, "X" is the primary reason code and P37 becomes the primary resource area affecting overall readiness.

ANNEX A

SECTION 5

PERSONNEL

- The unit has assigned* at least 95% of complement (100% organizational* manning), officer and enlisted, including at least 95% (100% in the case of organizational manning) of petty officers E-5 through E-9, for mission essential ratings. In addition, the unit must have all essential NECs attached.
- The unit has assigned* at least 85% of complement or organizational* manning, officer and enlisted, including at least 90% of petty officers E-5 through E-9, for mission essential ratings. Shortages in mission essential NECs cause minor degradations in any primary mission area; however, these degradations do not cause a loss of any primary mission area.
- The unit has assigned* at least 65% of complement or organizational* manning, officer and enlisted, including at least 75% of petty officers E-5 through E-9, for mission essential ratings. Shortages in mission essential NECs cause major degradations in any primary mission areas; however, these degradations do not cause a loss of more than one primary mission area.
- C4 The unit is not C-1, C-2, or C-3

^{*}Assigned Strength (Personnel) - All personnel currently assigned to the organization for duty whether or not on board. Personnel are considered to be assigned from time of reporting to time of detachment from the organization, including those absent on temporary additional duty (TAD) or leave. Since personnel transferred on temporary duty (TEMDU) are considered a loss to the organization, they should not be included in assigned strength.

ANNEX A (cont'd)

To determine the C-rating in personnel, circle the appropriate values found in the columns of the table below. The C-rating is the lowest level circled in any of the columns of the table.

- Column (a) Percent personnel assigned. (ccmp = complement 0/m = organizational manning)
- Column (b) Percent petty officers E-5 through E-9 for all mission essential ratings.
- Column (c) Degradations in primary mission areas (Pri M/Λ) caused by a shortage of mission essential NECs.

	(a).	(b)	(c)
Cl	95-100% comp or 100% o/m	95-100% or 100% o/m	Insignificant
C2	85-94%	90-94%	Minor, but no Pri M/A lost
C3	65-84%	75-80%	Major, but not more than one Pri M/A lost
C4	0-64%	0-74%	Worse than C-3 and more than one Pri M/λ lost

ANNEX A

SECTION 5

EQUIPMENT AND SUPPLIES ON HAND

- No shortages exist in mission essential equipment or supplies that would cause more than insignificant degradations in any of the primary mission areas.

 Additionally, for aviation units, not less than 100 percent of authorized aircraft are in the physical possession and control of the squadron or detachment, having installed (regardless of operating condition) those mission essential subsystems as specified in OPNAVINST C5442.4C.
- Shortages exist in mission essential equipment and supplies that cause minor degradations in any primary mission area; however, these degradations do not cause a loss of any primary mission area. Additionally, for aviation units, not less than 83 percent of authorized aircraft are in the physical possession and control of the squadron or detachment, having installed (regardless of operating condition) those mission essential subsystems as specified in OPNAVINST C5442.4C.
- Shortages exist in mission essential equipment and supplies which cause <u>major degradations</u> in any primary mission area; however, these degradations do not cause a loss of more than one primary mission area. Additionally, for aviation units, not less than 55 percent of authorized aircraft are in the physical possession and control of the squadron or detachment and having installed (regardless of operating condition) those mission essential subsystems as specified in OPNAVINST C5442.4C.
- Shortages in mission essential equipment and supplies are worse than C-3, and cause a loss of more than one primary mission area. Additionally, for aviation units, less than 55 percent of authorized aircraft are in the physical possession and control of the squadron or detachment.

To determine the C-rating in equipment and supplies on hand, circle the appropriate values found in the columns of the table below. The C-rating is the lowest level circled in any of the columns of the table.

- Column (a) Shortages in mission essential equipment or supplies.
- Column (b) Degradations in primary mission areas caused by shortages in column (a).
- Column (c) Percent of authorized aircraft in the physical possession and control of the squadron or detachment, having installed (regardless of operating condition) those mission essential subsystems as specified in OPNAVINST C5442.4C.

	(a)	(b)	(c)
Cl	Essentially no shortages	Essentially no degradations	100%
C2	Minor shortages	Minor degradations, but no Pri M/A lost	83-99%
C3	Major shortages	Major degradations, but not more than one Pri M/A lost	55-82%
C4	Worse than C-3	Worse than C-3, and more than one Pri M/A lost	0-54%

EQUIPMENT READINESS

- No deficiencies exist in mission essential equipment that cause more than insignificant degradation in any of the primary mission areas. Additionally, for aviation units, not less than 75 percent of authorized aircraft have installed and in operating condition those mission essential subsystems as specified in OPNAVINST C5442.4C.
- Deficiencies exist in mission essential equipment that cause minor degradations in any primary mission area; however, these degradations do not cause a loss of any primary mission area. Additionally, for aviation units, not less than 57 percent of authorized aircraft have installed and in operating condition those mission essential subsystems as specified in OPNAVINST C5442.4C.
- Deficiencies exist in mission essential equipment which cause major degradations in any primary mission area; however, these degradations do not cause a loss of more than one primary mission area. Additionally, for aviation units, not less than 41 percent of authorized aircraft have installed and in operating condition those mission essential subsystems as specified in OPNAVINST C5442.4C.
- Deficiencies in mission essential equipment are worse than C-3, and cause a loss of more than one primary mission area. Additionally, for aviation units, less than 41 percent of authorized aircraft have installed and in operating condition those mission essential subsystems as specified in OPNAVINST C5442.4C.

To determine the C-rating in equipment readiness, circle the appropriate values found in the columns of the table below. The C-rating is the lowest level circled in any of the columns of the table.

- Column (a) Deficiencies in mission essential equipment.
- Column (b) Degradations in primary mission areas caused by deficiencies in column (a).
- Column (c) Percent of authorized aircraft have installed and in operating condition those mission essential subsystems as specified in OPNAVINST C5442.4C.

	(a)	(b)	(c)	
Cl	Essentially no deficiencies	Essentially no degradations	75-100%	
C2	Minor deficiencies	Minor degradations, but no Primary M/A lost	57-74%	
C3	Major deficiencies	Major degradations, but not more than one Pri M/A lost	41-56%	
C4	Worse than C-3	Worse than C-3, and more than one Pri M/A lost	0-40%	

TRAINING

- No deficiencies exist in training that cause more than insignificant degradations in any of the primary mission areas. Additionally, for aviation units, not less than 85 percent of authorized crews are combat ready as defined by type commander directives.
- Deficiencies exist in training that cause minor degradations in any primary mission area; however, these degradations do not cause a loss of any primary mission area. Additionally, for aviation units, not less than 70 percent of authorized crews are combat ready as defined by type commander directives.
- Deficiencies exist in training that cause major degradations in any primary mission area; however, these degradations do not cause a loss of more than one primary mission area. Additionally, for aviation units, not less than 55 percent of authorized crews are combat ready as defined by type commander directives.
- C4 Deficiencies in training are worse than C-3, and cause a loss of more than one primary mission area. Additionally, for aviation units, less than 55 percent of authorized crews are combat ready as defined by type commander directives.

To determine the C-rating in training, circle the appropriate values found in the columns of the table below. The C-rating is the lowest level circled in any of the columns of the table.

Column	(a)	Deficiencies	in	training.
--------	-----	--------------	----	-----------

- Column (b) Degradations in primary mission areas caused by deficiencies in column (a).
- Column (c) Percent of authorized crews are combat ready as defined by type commander directives.

	(a)	(b)	(c)
C1	Essentially no deficiencies	Essentially no degradations	85-100%
C2	Minor deficiencies	Minor degrada- tions but no Pri M/A lost	70-84%
C3	Major deficiencies	Major degrada- tions, but not more than one Pri M/A lost	55-69%
C4	Worse than C-3	Worse than C-3, and more than one Pri M/A lost	0-54%

SECTION 6

MISSION AREA REPORTING

- 6.1 PURPOSE. This section describes the data label and procedures used for reporting mission area degradations. Amplifying criteria for determination of mission area readiness ratings are set forth in OPNAVINST 3501.5 and OPNAVINST 3501.2.
- 6.2 SCOPE. Relevant mission area readiness data will be reported by all combat and combat support organizations specified in paragraph 1.2b(1) through (20) of this instruction.

6.3 MISSION AREA CRITERIA

- General. It is emphasized that the mission area readiness ratings (M ratings) reported reflect the commanding officer's estimate of his unit's capability to perform in each primary mission area for which his unit is held responsible. The estimate should be based upon the availability of required personnel, equipment and supplies on hand, equipment readiness and a qualitative evaluation of organization training. estimate should not be influenced by limitations imposed by equipment design or installation, or by environmental conditions. The estimates should be dealt with as independent evaluations in each primary mission area. For example, if the primary mission area of mobility (MOB) happens to be M4 (the unit cannot get underway), it could be construed at that time no real capability exists in anti-submarine warfare (ASW). Nonetheless, it is desired that ASW, in this case, be rated as if a mobility capability existed. On the other hand, it is obvious that some degradations will affect more than one primary mission area. For example, loss of the master gyro compass will affect both MOB and ASW, as well as other mission areas. All affected mission areas should be degraded an appropriate amount. The inability to perform for a sustained period should not degrade a mission area, since existing resource degradations which influence performance over a sustained period are ascertainable from existing resource readiness reporting.
- b. Specific. The following criteria will be used in determination of an M rating for mission area readiness reporting:
 - Ml: The unit is essentially <u>fully capable</u> of performing in the stated mission area and is contending with no more than insignificant degradations.

- M2: The unit has minor deficiencies in this mission area which can be expected to result in some degradation in performance. The unit can be assigned to perform in this mission area with the expectation of acceptable, although less than, designed performance.
- M3: The unit has major deficiencies in this mission area which can be expected to result in severely degraded performance. However, the mission area is not entirely lost.
- M4: The unit is <u>unable to perform</u> to any useful degree in this mission area. For all practical purposes, this mission area is considered to be a complete loss.
- M5: Not required to report. Units in regular over-haul or conversion and fitting out availability or post-shakedown availability or restricted availability for 90 days or longer will report M5 in all primary mission areas. Units in new construction will report M5 from the date of commissioning until in-chop to TYCOM, when full reporting in all primary mission areas will commence. Organizations that experience a temporary removal of mission essential equipment for other than maintenance purposes will report M5 for that mission area and submit narrative remarks in PART II, citing authority for removal.
- c. Relationships (C ratings/M ratings). A close relationship exists between the combat readiness ratings (C ratings) and the mission area readiness ratings (M ratings). The criteria to determine C ratings are so arranged as to measure deficiencies of a unit and the resulting degradations in the assigned primary mission areas. The number of primary mission areas degraded and the level to which they are degraded have a direct bearing upon the combat readiness level reported in both overall readiness and the four measured resource areas. It is imperative that the following relationships be kept in the proper perspective when reporting in NAVFORSTAT:
- (1) If a unit reports M4 in one primary mission area, the unit overall C rating cannot be better than C3 unless the commander's judgment is applied.
- (2) If a unit reports M4 in more than one primary mission area, the unit overall C rating cannot be better than C4 unless the commander's judgment is applied.

- (3) If a unit reports M2 or M3 in a primary mission area, and the measured resource area of personnel is the primary reason the mission area is degraded, then the measured resource area of personnel is limited to C2 or C3, respectively. The same rationale applies to the other measured resource areas.
- (4) If a unit reports M4 in one primary mission area, and the measured resource area of personnel is the primary reason the mission area is degraded, then the measured resource area of personnel cannot be higher than C3. The same rationale applies to the other measured resource areas.
- (5) If a unit reports M4 in more than one primary mission area with the measured resource area of personnel as the primary reason the mission areas are degraded, then the measured resource area of personnel is limited to C4. The same rationale applies to the other measured resource areas.

6.4 DATA TO BE REPORTED

DATA LABEL

DATA LABEL DESCRIPTION

a. PRMAR

Primary Mission Area Readiness

PRMAR is a compound data element which contains all of the information in the following format:

	PRIMARY	MISSION	RESOURCE A	REA
DATA	MISSION	AREA	REASON	
LABEL	AREA	RATING	CODE	
PRMAR	xxx	/ xx	/ xxx	

- (1) PRIMARY MISSION AREA is identified by the three character abbreviation as contained in OPNAVINST 3501.2 series (e.g., mobility, (MOB); command and control, (CAC).
- (2) MISSION AREA RATING consists of the letter M and a numeric 1, 2, 3, 4 or 5.
- (3) RESOURCE AREA REASON CODES are contained in table 5, appendix A.
- (4) If M1 or M5 are reported, no resource area reason code is required.
- (5) "DELETE" directly following the data label PRMAR, and mission area code, will remove all reference to the mission area from the unit record.

APPENDIX A

TABLE 4

PRIMARY REASON CODES

CODE	DEFINITION
P	PERSONNEL
S	EQUIPMENT/SUPPLIES ON HAND
R	EQUIPMENT READINESS
T	TRAINING
X	COMMANDER'S SUBJECTIVE JUDGMENT.
	EXPLANATORY REMARKS MUST BE SUB-
	MITTED.

Table 4 Appendix A

APPENDIX A

TABLE 5

RESOURCE AREA REASON CODES

U.S. NAVY

CODE	DEFINITION
PERSONNEL	
POl	CASUALTIES
PO5	ORGANIZATION ACTIVATING
P06	ORGANIZATION DECOMMISSIONING/DEACTIVATING
P11	PERSONNEL SHORTAGE
P16	PERSONNEL SHORTAGE-CREW CHIEF
P19	PERSONNEL SHORTAGE-ENLISTED
P21	PERSONNEL SHOPTAGE-GROUND OFFICER
P26	PERSONNEL SHORTAGE-MAINTENANCE
P29	PERSONNEL SHORTAGE-NCO/PETTY OFFICER (E-5 to E-9)
P92	PERSONNEL SHORTAGE-OFFICER
P33	PERSONNEL SHORTAGE-OFFICER, NAVAL FLIGHT
P34	PERSONNEL SHORTAGE 01 TO 03
P35	PERSONNEL SHORTAGE 04 TO 06
P36	PERSONNEL SHORTAGE-PILOT
P37	PERSONNEL SHORTAGE-QUALIFIED TO PERFORM MOS/NEC AFSC DUTIES TO WHICH ASSIGNED
SUPPLIES/EQUIPMENT ON	HAND
sol	AIRCRAFT CONVERSION TO NUCLEAR ORDNANCE INCOMPLETE
SO2	AIRCRAFT CONVERSION FOR MINES INCOMPLETE
SO3	AIRCRAFT IN STORAGE
SO4	AIRCRAFT NOT FULLY EQUIPPED
SO5	AIRCRAFT ON LOAN
S 06	AIRCRAFT OPERATIONAL LOSS/COMBAT LOSS
S 07	ALLOWED EQUIPMENT AWAY FOR REPAIRS
SO8	ALLOWED EQUIPMENT AWAY ON LOAN
SO9	ALLOWED EQUIPMENT NEVER RECEIVED
S10	AMMUNITION UNSERVICABLE/SUSPENDED
Sll	AWAITING CRITICAL MODIFICATION
S14	EQUIPMENT REMOVED
S15	MISSILES INOPERATIVE/UNSERVICABLE
S17	ORGANIZATION DECOMMISSIONING/DEACTIVATING

Table 5 Appendix A

SUPPLIES/EQUIPMENT ON HAND (cont'd)

CODE	DEFINITION			
\$18	ORGANIZATION	RECENTLY	ACTIVATED	/REORGANIZED
\$22	SHORTAGE-AMM			
S26	SHORTAGE-CONS	SUMABLES		
S30	SHORTAGE-PROV	/ISIONS		
531	SHORTAGE-REPA	AIR PARTS	SPARES (A	LILOWANCE
	LIST ITEM)			
532	SHORTAGE-PEP	AIR PARTS	(NOT ALLO	WANCE
	LIST ITEM)			
S33	SHORTAGE-REP		(MOUNT OU	T)
S39	SUPPLY SHORT			
\$40	SHORTAGE-SUP			
541	SHORTAGE-TEST		IT	
543	SHORTAGE-VEH			
S44	SHORTAGE-WAR			TS
S45	SHORTAGE/OFF			
S46	SHORTAGE/OFF			
S47	SHORTAGE/OFF			
S48	SHORTAGE/OFF:	LOADED-AMI	UNITION,	ANTI-AIP
	WARFARE			
S49	SHORTAGE/OFF	LOVDED-VNJ	TISUBMARIN	E WARFAPE
	WEAPONS			
S50	SHORTAGE/OFF:			
S51	SHORTAGE/OFF:			
S52	SHORTAGE/OFF:		RPEDO	
S53	UNSERVICABLE			
S54	AIRCRAFT CON	BAT GASS		
EQUIPMENT				
RO2	AIRCRAFT NOT MENTS			REQUIRE-
RO3	AIRCRAFT, PR		REWORK	
R10	DAMAGE-HULL			
R12	DAMAGED/INOP			
R13	DAMAGED/INOP			
R14	DAMAGED/INOP			
R15	DAMAGED/INOP			
R16	DAMAGED/INOP			STOPAGE/
	BOAT HANDLIN			
R17	DAMAGED/INOPI		DUNTERMEAS	SURES
	(EPECIFICALITY ME)	CHANTCYT!)		

Table 5 Appendix Λ

EQUIPMENT (cont'd)

CODE	DEFINITION
R18	DAMAGED/INOPERATIVE-ECM
R19	DAMAGED/INOPERATIVE-ELECTRIC POWER,
	AUXILIARY
R20	DAMAGED/INOPERATIVE-ELECTRIC POWER,
	PRIMARY
R22	DAMAGED/INOPERATIVE-EQUIPMENT, COMMUNICA-
	TIONS
R26	DAMAGED/INOPERATIVE-EQUIPMENT, FLEET
	SUPPORT
R27	DAMAGED/INOPERATIVE-IFF
R28	DAMAGED/INOPERATIVE-LAUNCHER, MISSILE
R29	DAMAGED/INOPERATIVE-LAUNCHEP, TOPPEDO
R30	DAMAGED/INOPERATIVE-NUCLEAR REACTOR
222	PLANT/CONTROLS
R32 R 33	DAMAGED/INOPERATIVE-RADAR, FIRE CONTPOL DAMAGED/INOPERATIVE-RADAR, SEARCH
R34	DAMAGED/INOPERATIVE-SHAFT/PROPELLOR/
PCN	STEERING
R35	DAMAGED/INOPERATIVE-SYSTEM DATA
R36	DAMAGED/INOPERATIVE-SYSTEM. GUN
R37	DAMAGED/INOPERATIVE-SYSTEM, GUN FIRE
R38	CONTROL DAMAGED/INOPERATIVE-SYSTEM, INTELLIGENCE PROCESSING DAMAGED/INOPERATIVE CYCTEM MISSIER FIRE
	PROCESSING
R39	DAMAGED/INOPERATIVE-SYSTEM, MISSILE FIRE
	CONTROL
R40	DAMAGED/INOPERATIVE-SYSTEM NAVIGATION
R41	DAMAGED/INOPERATIVE-SYSTEM, PROPULSION
R42	DAMAGED/INOPERATIVE-SYSTEM, SONAR
R43	DAMAGED/INOPERATIVE-SYSTEM, TORPEDO FIRE
	CONTROL
R44	DAMAGED/INOPERATIVE-TOPPEDO/MISSILE
R45	DAMAGED/INOPERATIVE-VEHICLE(S)
R48	EQUIPMENT, INSPECTION/CHECKOUT
R50	EQUIPMENT NEVER PASSED ACCEPTANCE TRIALS
R52 R54	EQUIPMENT REMOVAL EQUIPMENT SHORTAGE
R65	
KUJ	NOT OPERATIONALLY READY MAINTENANCE (NORM)-AIRCRAFT AIRFRAME
R66	NOT OPERATIONALLY READY MAINTENANCE
	(NORM) - AIRCRAFT COMMUNICATION
R67	NOT OPERATIONALLY READY MAINTENANCE
	(NORM) - AIRCRAFT INSTRUMENTS
	the state of the s

Table 5 Appendix A

EQUIPMENT (Cont'd)

	CODE	DEFINITION
	R68	NOT OPERATIONALLY READY MAINTENANCE (NORM) - AIRCRAFT NAVIGATIONAL SYSTEM
	R69	NOT OPERATIONALLY READY MAINTENANCE (NORM) - AIRCRAFT UTILITIES
	R70	NOT OPERATIONALLY READYAINTENANCE (NORM) - AIRCRAFT WEAPONS CONTROL
	R72	NOT OPERATIONALLY READY SUPPLY (NORS) - AIRCRAFT AIRFRAME
	R74	NOT OPERATIONALLY READY SUPPLY (NORS) - AIRCRAFT COMMUNICATION
	R75	NOT OPERATIONALLY READY SUPPLY (NORS) - AIRCRAFT INSTRUMENTS
	R76	NOT OPERATIONALLY READY SUPPLY (NORS) - AIRCRAFT NAVIGATIONAL SYSTEM
	R77	NOT OPERATIONALLY READY SUPPLY (NORS) - AIRCRAFT UTILITIES
	R78	NOT OPERATIONALLY FEADY SUPPLY (NOPS) - AIRCRAFT WEAPONS CONTROL
	R80	ORGANIZATION DECOMMISSIONING/ DEACTIVATING
TRAINING		
	TO3	INADEQUATE-ON BOARD TRAINING DEVICES
	TO4	INADEQUATE-RANGE SERVICES
	TO5	INADEQUATE-SCHOOL QUOTAS
	T06	INADEQUATE-TARGET SERVICES
	T07	INADEQUATE-TRAINING AMMUNITION
	TO8	INADEQUATE-TRAINING AREAS
	TO9	INCOMPLETE-EXERCISE/INSPECTIONS
	T10	INCOMPLETE-FIRING/PROFICIENCY TESTS
	Tll	INSUFFICIENT-CREWS COMBAT-READY
	T12	INSUFFICIENT-CREWS COMBAT-READY, ENLISTED
	T15	INSUFFICIENT-FUNDING
	T16	INSUFFICIENT-NAVAL FLIGHT OFFICERS COMBAT- READY
	117	INSUFFICIENT-PILOTS COMBAT-READY
	-10	

INSUFFICIENT-TYPE TRAINING TIME INSPECTION-FAILED INITIAL CERTIFICATION

INSPECTION-FAILED RECERTIFICATION

NAVAL AVIATION TRAINING OPERATIONS

(NATOPS) QUALIFICATION

Table 5 Appendix A

T18

T19 T20

T22

TRAINING (cont'd)

9	CODE	DEFINITION
	r23 .	OPERATIONAL COMMITMENTS
	r24	ORGANIZATION ACTIVATING
_	r25	ORGANIZATION DECOMMISSIONING/DEACTIVATING
	r26	ORGANIZATION IN ROTATIONAL DEPLOYMENT
	r27	PERSONNEL NOT COMBAT-READY
	r28	PERSONNEL TURNOVER EXCESSIVE
	r31	SHORTAGE-EQUIPMENT
	r32	SHORT'AGE INSTRUCTOR
	r33	SHORTAGE INSTRUCTOR, PILOT/AIRCREW
	r37	SHORTAGE PERSONNEL
	r38	SHORTAGE TECHNICAL SKILL PERSONNEL
2	r40 ·	TESTS-UNSATISFACTORY READINESS
7	r41	TRAINING INCOMPLETE
	T42	TRAINING INCOMPLETE-AIR WARFARE (ARM)
•	T43	TRAINING INCOMPLETE-AMPHIBIOUS WAPFARE
		(AMW)
	T44	TRAINING INCOMPLETE-ANTI-AIR WARFARE (AAW)
	T45	TRAINING INCOMPLETE-ANTISUBMARINE
		WARFARE (ASW)
	T46	TRAINING INCOMPLETE-BALLISTIC MISSILE
		WARFARE (BMW)
	r47	TRAINING INCOMPLETE-CONSTRUCTION (CON)
	T48	TRAINING INCOMPLETE-FLEET SUPPORT
		OPERATIONS (FSO)
	T49	TRAINING INCOMPLETE-MINE WARFARE (MIW)
	T50	TRAINING INCOMPLETE-MOBILITY (MOB)
	T51	TRAINING INCOMPLETE-NONCOMBAT OPERATIONS (NCO)
	T52	TRAINING INCOMPLETE-SPECIAL WARFARE (SPW)
	T53	TRAINING INCOMPLETE-SURFACE WARFARE (SUW)
	T54	TRAINING INCOMPLETE-SUBMARINE WARFARE
		(SBW)

APPENDIX B

GLOSSARY

Alerted - Alerted means that an organization has been notified of its selection for employment in support of a specific operation plan or operation order.

Assigned Strength - All personnel currently assigned to the organization for duty whether or not on board. This includes personnel from time of reporting to time of detachment from the organization, including those temporarily absent, on temporary additional duty or leave. Since personnel transferred on temporary duty are considered a loss to the organization, they will not be included in assigned strength.

Attached Command - An organization whose commander, subject to limitations imposed by the attachment order, will exercise the same degree of command and control over organizations attached to it as he does over organizations organic to his command. In this chapter, the "attached command" refers to the Service major command, Service separate operating agency, or CINC component command to which an organization is attached and which has FORSTAT reporting responsibility for the organization.

Authorized Strength - The current authorization of an organization as indicated in the allowance column of the unit manbower authorization (OPNAV Form 1000/2). In some instances, the structured strength and the current authorized strength will be identical.

Combined Command - A military command composed of organizations of two or more allied nations.

Committed - Committed means that an organization is in motion or in place fulfilling a specific commitment in support of specific operation plan or operation order.

Countries of the World - The independent first-level geographic-political areas and their dependencies, areas of quasi-independence, and areas with special sovereignty associations, unrecognized, but sovereign, political regimes and administrative divisions without sovereignty, and outlying areas of the United States, including islands in dispute.

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Crew, Formed - A formed crew is a group of crew members (or, in certain instances, a single crewmen) constituted as a crew and designated as such by an appropriate official document, as determined by the major commander. A formed crew must be technically qualified to fill a crew position for the performance of the organization's primary mission.

Crew, Mission Ready - A mission ready crew is a group of crew members (or, in certain instances, a single crewman) which is considered capable by the organization's commander of performing the organization's assigned mission.

C-Day - The unnamed day on which a deployment or operation commences or is to commence. The highest command responsible will specify the execute date when plan execution is forecast.

Crew, Overhead - An overhead crew is an individual or a group of individuals assigned (or attached to the organization and flying the primary mission aircraft) to the organization in a status other than that of primary crew duty assignment.

Deployment - In a strategic sense, the relocation of forces to desired areas of operation. (See JCS Pub 1).

Earmarked - Forces and/or equipment specifically designated for assignment or attachment to a commander in the event of mobilization or war.

Field, Alphabetic - An alphabetic field is a left-justified data field in which alphabetic characters (A through 2), special characters, and embedded blanks can be reported, followed by trailing blanks.

Field, Numeric - A numeric field is a right-justified data field in which the arabic numerals 0 (zero) through 9 can be reported, preceded by leading zeros.

Force Requirement Number (FRN) - The FRN uniquely identifies a requirement for a force, a subordinate organization, or component of a force, and its related movement data. An FRN will be assigned to each requirement down to and including separate company, squadron, commissioned ship, or other comparable level. An FRN may be assigned to a requirement for a lower level organization, only when the organization is critical to the plan. The FRN will be perpetuated with the type organization to which assigned on annual updates of the plan. The FRN will identify a single force requirement entry. For example, a requirement for two ships will be identified by two FRN's.

Operationally Ready - 1. As applies to an organization, ship or weapon system--Capable of performing the missions or functions for which organized or designed. Incorporates both equipment readiness and personnel readiness.

- 2. As applied to equipment--Available and in condition for serving the functions for which designed.
- 3. As applies to personnel--Available and qualified to perform assigned missions or functions.

Organization - An organization is defined to include most things commonly called establishment, activity, unit, enterprise, institution, company, corporation, agency, bureau, office, group, or committee.

Active - An active organization is one which is presently in existence.

Cellular - A cellular organization is one which has been organizationally structured with two or more cellular component elements, each of which has prescribed personnel and equipment required for the performance of a specific mission. Each cell of the organization is described in the organization authority document (e.g., a cellular TOE - U.S. Army). One or more of these component elements (most commonly called "teams") may be selected to form a military organization to meet a special requirement or may be used to augment a military organization already organized under another organization authority document.

Combat - A combat organization is a military organization that is expected to be offensively or defensively employed to fire weapons, conduct reconnaissance, or engage in other operational activity directly related to combat, and is likely to receive hostile fire.

Combat Support - A combat support organization is a military organization that is in direct support of a combat organization, but is not actively engaged in combat, although it may receive hostile fire.

Deployed/Deployable - Λ deployed/deployable organization is one which has been relocated or is capable of being relocated to desired areas of operation.

Inactive - An inactive organization is one which existed previously and has been deactivated, decommissioned, discontinued, or inactivated.

National Guard - A National Guard organization is one within the Army National Guard or Air National Guard.

Other - An "other" organization is a military organization that does not fit the description of either combat or combat support.

Planned - A planned organization is one which has been authorized to exist at some future time which may or may not be determined.

Regular Component - A regular component organization is one of the regular Army, Navy, Air Force, or Marine Corps or joint activities within the DOD.

Reserve - A reserve organization is one within the Army Reserve, Naval Reserve, Air Force Reserve, or Marine Corps Reserve. (See JCS Pub 1).

Reserve Component on Extended Active Duty - A reserve component organization on extended active duty is a Peserve or National Guard organization which is on extended Federal active duty. This does not include organizations on active duty for short training tours or for a limited purpose, e.g., to assist in quelling a civil disorder or to assist in disaster relief.

Present Strength - All personnel currently assigned to the organization, less personnel away from the reporting organization on temporary additional duty (TAD) or leave. Present strength considers only those personnel actually on board or available for employment within 24 hours. If personnel are on TAD or on leave in the local area and can be recalled for employment within 24 hours, they should be counted in the present strength. The reporting organizations will make the determination as to their availability. Since personnel transferred on temporary duty (TEMDU) are considered a loss to the organization, they should not be included in present strength.

Readiness Rating Limitation - Restrictions or limitations imposed on allocated resources (personnel, material, funds, etc.) of designated units by higher authority that will preclude the unit from attaining a status of being fully combat ready (C-1) to perform its wartime mission. The Navy goal in readiness is normally C-1 in the measured resource areas of

equipment and supplies on hand, equipment readiness, and unit training. However, an implicit limitation exists in the measured resource area of personnel for those units in which a ship/aircraft squadron manning document has not been implemented and for those whose authorized allowance is less than 95% of complement (M+12). For many units, a significant difference exists between current authorized allowance and complement (M+12). This data element will provide a means of reporting an existing readiness rating limitation, whether it be implicit as described above, or explicity, such as temporarily placing a ship in "cadre" status. Type commanders will insure assignment of a readiness limitation, where appropriate. If a limitation is not assigned, a reading of C-1 will be presumed. A reporting commanding officer should not be influenced in the determination of reported readiness ratings by the assignment of a readiness rating limitation.

Specified Geologation Code - A specified geologation code is a four-character alpha-numeric code which indicates the geographical location of a base, station, port, city, or some other type of place.

Structured Strength - The full wartime authorization of an organization indicated in the complement (M+12) column of a unit manpower authorization (OPNAV Form 1000/2).

Transfer - Transfer, in this chapter, refers to the act of passing operational command/control of an organization from one Service major command, Service separate operating agency, or CINC component command to another. This is a deliberate action with specific FORSTAT reporting requirements and responsibilities.

Unified and Specified Commands - Unified and specified commands are defined in JCS Pub 1. In this enclosure, in accordance with definitions described in Joint Reporting Structure (JRS), unified and specified commands and the commanders of unified and specified command (referred to as CINCs) are identified as the following:

Commander in Chief, Alaska
Commander in Chief, Atlantic
Commander in Chief, Continental Air Defense Command
US Commander in Chief, Europe
Commander in Chief, Pacific
Commander in Chief, US Southern Command
Commander in Chief, US Readiness Command
Commander in Chief, Strategic Air Command

Worldwide Military Command and Control System (WWMCCS) - The WWMCCS consists of the facilities, equipment, communications, procedures, and personnel that provide the technical and operational support involved in the function of command and control of US military forces. The system is comprised of:

- a. The National Military Command System (NMCS).
- b. The subsystem of the commanders of unified and specified commands.
 - c. The subsystems of the Service headquarters.
 - d. The subsystems of the commanders of component commands.
- e. Those elements of the subsystems of the other Department of Defense agencies and offices which directly support the command and control functions, e.g., DNA, DIA, DCA.

I. Description of Information

a. Overview

Casualty reports cover changes in the operational capability of a ship and provide an indication of the ship's readiness in four areas. These areas are: (a) supply; (b) equipment; (c) personnel; and (d) training. A CASREPT must be filed whenever a ship suffers any type of problem that degrades its operational capability in one of the above four areas. A C-rating is made in the area in which a problem has occurred. The C-ratings are the same as those described earlier for NAVFORSTAT (i.e., Cl -- fully ready, C2 -- substantially ready, C3 -- marginally ready, C4 -- not ready). Moreover, the C-ratings provided by the CASREPTs should be consistent with the C-ratings provided by NAVFORSTAT.

When a CASREPT is written on any type of equipment failure that affects the operational readiness of a ship, a Ships Maintenance Action Form 4790/2K (2-Kilo) should also be submitted, although through different channels. The 2-Kilo form is part of the Maintenance Data Collection Subsystem (MDCS), which in turn is part of the "3-M" system to be described later. The 2-Kilo form is designed to provide detailed information pertaining to a description of the problem, work needed to correct the problem, and if applicable, a description of why maintenance or repairs could not be completed at the time the report was filed.

b. Examples of Variables

The CASREPT is communicated in message form and includes (a) the problem area, (b) the effect of the problem on the operational readiness of the organization, (c) corrective actions that are being taken, (d) the type of assistance that is requested, if any, (e) the source from which the assistance is being requested, and (f) the C-rating.

The 2-Kilo form is more detailed and includes the following types of information:

Ships Unit Identification Code

Work Center Within the Ship

Job Sequence (a job identification)

Equipment Noun Name (name of the equipment on which maintenance is being reported)

When the Need for Maintenance was Discovered

The Effect of Failure or Malfunction on Operational Performance

An Opinion of What Caused the Failure or Malfunction. For example:

- 1. Abnormal conditions
- 2. Lack of knowledge or skill
- 3. Communication problems
- 4. Inadequate instruction procedures
- 5. Inadequate design

Deferral Reason Codes (a reason why maintenance is deferred).

For example:

- 1. Work backlog
- 2. Lack of material
- 3. Inadequate formal training
- 4. Inadequate school/practical training
- 5. Lack of facilities/capabilities

c. Sources of Information

1. Original Data Base

CASREPT: Message from organization by commanding officer

2-Kilo: Completed form - reviewed by chain of command in organization submitting CASREPT

2. Edits Performed on Data

Not applicable.

3. Form in Which Data are Presently Available

CASREPT information is maintained at the Ships Parts Control Center at Mechanicsburg, Pennsylvania, and 2-Kilo information is kept on an automated file at the Naval Fleet Material Support Office, Mechanicsburg, Pennsylvania.

4. Lag-time

CASREPTs are sent immediately, and 2-Kilo forms are sent shortly thereafter. However, it may require up to four months before the information from the 2-Kilo reports are complete at the Naval Fleet Material Support Office and available for retrieval.

II. Psychometric Properties

a. Areas of Most Confidence

Opinions were expressed that CASREPTs were likely to be quite accurate when submitted in accordance with reporting requirements. The same is true of 2-Kilo reports, at least when associated with CASREPTs. 3-M data are screened upon arrival at the Fleet Material Support Office and accuracy of materials entered into the data bank is judged to be excellent.

b. Sources of Potential Bias and Problems

Opinions were also expressed that CASREPTs and associated 2-Kilo reports might not be submitted according to reporting requirements because of pressures to "show-up" well. This, however, was considered to be an infrequent occurrence and oftentimes a result of subjectivity regarding the interpretation of the categories. Moreover, this is considered less likely to occur for equipment-related categories. On the other hand, there may be some instances where a

CASREPT is submitted for relatively minor problems in order to call attention to such things as manning levels.

III. General Remarks

A description of the 2-Kilo reports, which are part of the overall Maintenance Data Collection System, is provided in OPNAV Instruction 4790.4, Volumes I, II, and III.

NAVY MAINTENANCE AND MATERIAL MANAGEMENT PROGRAM (SHIPS 3-M SYSTEM)

I. <u>Description of Information</u>

a. and b. Overview and Examples of Variables

This system provides documentation of maintenance actions that have occurred as well as a system for scheduling, accomplishing, and controlling planned maintenance.

The Planned Maintenance System (PMS) is designed to be as flexible as possible in order to mesh with the operational environment. The PMS lists the following items on individual cards; safety equipment, tools and procedures, and required maintenance actions. The required maintenance actions include tasks (e.g., oil change) that must be accomplished periodically (e.g., weekly, monthly, or quarterly), after so many operating hours, or as the situation presents itself (such as the requirement to flush a portable fire pump after use). To guide these actions, a quarterly schedule is prepared which becomes the official record of order and accomplishment.

The maintenance tasks to be performed on a particular piece of equipment are listed on a maintenance index page (MIP). The maintenance index pages are used by the individual departments to plan and schedule preventive maintenance throughout a quarter. A companion weekly schedule is maintained in the individual work center where work assignments are made. The Maintenance Requirement Card (MRC) provides the individual responsible for maintenance with a working card listing safety precautions, tools, and estimates of the amount of time and skill required to complete the task. When the maintenance task is completed, an "x" is placed over the maintenance requirement on the weekly schedule indicating that the task has been completed, as scheduled. Items circled indicate tasks that were not accomplished according to schedule, or may indicate tasks

only partially completed. The responsible individual and the supervisor must document what was or was not accomplished so that it can be rescheduled.

As part of a quality assurance program, a separate inspection system is conducted in which a recorded accomplishment rate (RAR) is computed. The RAR serves as an indicator of the degree to which the ship is performing required tasks. The RAR is computed in the following manner:

$$RAR = \frac{PMT \text{ performed}}{PMT \text{ scheduled}} + \frac{PMT \text{ partially accomplished}}{2}$$

where PMT = preventive maintenance tasks.

Verification of the PMS accomplished is undertaken by several different types of inspection teams. For example, the squadron commander is required to conduct a 3-M evaluation on a quarterly basis. A Type Command 3-M inspection team visits appropriate organizations on an 18 month cycle; however, the unit commander can conduct the 18 month inspection if the Type Commander does not perform the inspection. A Board of Inspection and Survey (INSURV) is normally conducted every three years. The INSURV board consists of senior officers, of whom many have had enlisted service. During the INSURV inspections, a statistical sample of maintenance actions may be taken to verify completion of those tasks that the ship has reported as being accomplished. The results of the sample are multiplied by the RAR reported by the ships to form a correction factor for reported ratings. In the case of results examined at the departmental level, the samples can be quite small, and thus may contain sampling error. This would be of consequence only when departmental results are being considered on an individual basis.

The ship to be visited by a 3-M inspection team such as the Type Command team is normally notified the night before the inspection. Based on previous and current quarterly PMS schedules, the investigators attempt to verify whether

the maintenance recorded as fully accomplished has been accomplished according to specified procedures. The inspectors also evaluate individuals who perform the PMS to determine if they know how to perform, not memorize, the correct PMS procedures. If everything corresponds in a satisfactory manner, then full credit is given. If an individual cannot perform some of the required functions, but the major intent of the maintenance is performed (i.e., if it "did the gear some good"), then partial credit is given.

On the other hand, if the marking is not reflective of the true state of events, or if the maintenance was unsatisfactory, then the PMS is reported as unsatisfactory. The results of these checks are evaluated by a formula which provides a numerical indication of how well the tasks were performed. The formula is:

(Recorded Accomplishment Rate) x (Accomplishment Factor)

or

(RAR) x (ACF)

and the Accomplishment Factor (ACF) is defined as

$$\frac{S - \frac{P}{2} - U}{S}$$

where S = number of scheduled tasks sampled, P = number of scheduled tasks partially accomplished, and U = number of scheduled tasks performed in an unsatisfactory manner. The product, (RAR) x (ACF), is referred to as a PMS Performance Rate, or a "PPR."

As an example, if 90% of the tasks were reported as having been completed (i.e., RAR = .90), and the ACF was .83, then the PPR would be .75. A PPR of .75 is interpreted to mean that the unit is properly completing 75% of what it is required to perform. Typically, a minimum of 100 checks are sampled on all ships before determining the PPR, except for the Immediate Unit Commander (IUC)

and INSURV inspection, where not more than 50 items are sampled. Almost every maintenance action is inspected on small ships. Only those items "x'd" off are inspected. If there are less than 100 items x'd, the actions for the entire quarter may be inspected.

Some variation may exist in the quality of inspections depending upon the makeup of the inspection teams. Attempts have been made to remove potential sources of bias, although it is impossible to remove all variations in thoroughness and level of detail during inspections. Within a given Type Command, guidelines for the inspection procedure are straight-forward. There is more variability, however, at the squadron level, thus creating a possibility/tendency for a "scratch back" syndrome. As a result, some of these inspections may not be performed in the most exhaustive manner.

Because the possibility of inaccuracies exists, certain verification procedures have been implemented. One method is surprise inspections by the Type Command. Moreover, as mentioned earlier, the INSURV board conducts inspections on a statistical (random) sample of maintenance actions, and them computes a PPR. The INSURV inspections are not, however, given-on-a-surprise basis. Rather, the unit is given time to prepare for the INSURV inspection.

Attempts have been made to correlate the results on various types of 3-M inspections with CASREPT, equipment reliability, and retention data. The magnitude of these correlations has not been as high as desired; in fact, in some cases relationships that were expected to be positive turned out to be negative. Furthermore, PPRs appear to be independent of factors such as retention and morale. Starting from the same baseline of money or overhaul, one finds that on one ship morale is high and people regard the job as a challenge, whereas on another essentially equivalent ship this is not the case. The difference is commonly attributed to leadership and manning levels.

For example, if a ship is fully manned, then the probability of completing PMS is greater than if a ship is not fully manned. Furthermore, a ship which is manned at only 60% of authorized strength must be highly organized and well-managed if it is to do well in the PMS area. The quantity and quality of PMS for fully manned ships is also related to organization and management. This is evident because preventive maintenance requires prior planning and organization so that the required personnel and equipment resources are available to complete the PMS according to schedule. However, some contingencies are beyond the control of management. For example, a poor overhaul may cause the ship to fall behind in accomplishing scheduled work, making it difficult to perform well in the preventive maintenance category.

c. Sources of Information

1. Original Data Base

Data are recorded in the organization.

2. Edits Performed on Data

Not applicable.

3. Form in Which Data are Presently Available

Data are available at the Organization and from the Type Commander.

4. <u>Lag-time</u>

Data for ships are available in approximately one to three weeks after the inspections.

II. Psychometric Properties

a. Areas of Most Confidence

The validity of the RARs may be questionable. However, as explained in the overview, inspection procedures have been implemented to offset inaccuracies. The PPRs are thought to reflect a relatively accurate picture of PMS.

Moreover, it was thought that greatest confidence should be placed in aggregates, such as data aggregated to ship level.

b. Sources of Potential Bias and Problems

- 1. The use of sampling techniques on large ships may result in the inclusion of small numbers of maintenance actions in individual departments.
- 2. Variations in thoroughness and detail may occur as a function of the size and makeup of the inspection team.
- 3. Old equipment that was poorly overhauled could cause a ship to get behind in maintenance because personnel are so busy with unscheduled maintenance that there is inadequate time for preventive maintenance.
- 4. The level of manning is also expected to play a part in the preventive maintenance grade since units with 100% manning would be expected to accomplish more PMS than those manned at a lesser level.

III. General Remarks

Attempts have been made to correlate 3-M data with CASREPTs, reliability reports, and retention. 3-M personnel interviewed indicated that the correlations were not of the magnitude they would like. They are personally convinced that if PMS is properly done, reliability must improve. The difficulty appears to be the many other variables that can influence ship performance. It may be possible, however, to work with 3-M data within classes of relatively homogeneous units, thereby avoiding possible confounding due to some of these contaminating variables.

NAVY MAINTENANCE AND MATERIAL MANAGEMENT PROGRAM (3-M SYSTEM) AIRCRAFT MAINTENANCE

I. Description of Information

a. Overview

Information relates to aircraft squadrons and provides data regarding maintenance and operational status. Information is recorded by maintenance personnel following task performance and includes unscheduled as well as preventive maintenance.

b. Examples and Variables

Man-hour expenditure required to maintain aircraft

NORS (Not Operationally Ready - Supplies)

NORM (Not Operationally Ready - Maintenance)

Utilization rate (rate at which aircraft is available for use)

Turn-around time (time required to prepare aircraft for use after previous uses)

Specific information can be obtained from report 4790.A2092 (classified confidential).

c. Sources of Information

1. Original Data Base

Data are recorded at the organization.

2. Edits Performed on Data

Not applicable.

3. Form in which Data are Presently Available

The data are recorded on magnetic tapes at the Naval Fleet Material Support Office, Mechanicsburg, Pennsylvania. In addition, a moving average for the current month and previous month is maintained. There are also three and six month data summaries. Microfiche "snapshots" of data are available.

4. Lag-time

Approximately four weeks elapse between the time the information flows from the source and is recorded at Mechanicsburg. The microfilm data are then sent to the Type Commands.

II. Psychometric Properties

a. Areas of Most Confidence

In general, there appears to be confidence in the system as an indicator of both maintenance and readiness of aircraft.

b. Sources of Potential Bias and Problems

It may be possible to correct one or more maintenance problems without having an increase in readiness because only single problems are reported in the present system. New procedures are expected to improve recording of multiple causes of operational readiness degradation.

III. General Remarks

There is a great deal of confidence in 3-M data for the aviation community because of emphasis on safety and high levels of quality control. It is believed to be one of the best indicators of readiness presently available.

The Human Resources Management Detachment (HRMD), Mayport, Florida, is presently using selected 3-M type data as part of a "Unit Outcome Criterion Comparison" form. Information regarding the use of 3-M data as well as the overall criterion form may be obtained directly from this HRMD.

I. Description of Information

a. Overview

The Naval Safety Center provides information analyses (for trends, causal factors, etc.) and recommends changes to the Chief of Naval Operations regarding unsafe practices identified during review of major and minor accidents and incidents dealing with occupational mishaps. The Safety Center also processes information on ground safety and motor vehicle accidents that may not be directly related to occupational duties.

The criteria for submission of safety reports are based on evidence of damage of substantial monetary value, personal injury, lost mon-days, manhours to repair parts, specific events such as man-overboard and fire, unsatisfactory safety conditions, and equipment failures.

b. Examples of Variables

Reporting covers several categories of information, including the following: OPNAV 5102-1 (Accidental Injury/Death Report), OPNAV 5102-2 (Material [Property] Damage), and OPNAV 5102-4 (Motor Vehicle Accident Report). Other reports include explosive mishaps (RCS DD/INL [AR] 1020 [2030]), explosive mishap supplement (OPN 5102-3), and Government Motor Vehicle quarterly summary (5102-5). The Center also has extensive aviation flight records and mishap data.

Examples of the specific types of variables contained in the reports are as follows:

1. Descriptive information from the reporting activity such as:

Ship type

Hull number

Unit identification code

Date of accident

Geographic location

2. Material (Property) damage

Type of equipment lost or damaged

Equipment identification code

Material stock number

Description of extent of damage (including dollar costs)

- 3. Deaths
- 4. Reportable injuries
- 5. Operating days lost
- 6. Cost to repair or replace
- 7. Damage control & firefighting

Class of fire

Manner of control

8. Narrative description

Chain of events leading to the accident

Analysis of what, how, and why accident occurred

9. Personnel Cause Factors

Alcohol/hangover

Drug, drug abuse

Illness

Misunderstanding

Failure to detect warning signals

Personal equipment interference

Inadequate/unavailable equipment

Poor design/location of controls/displays

10. Accidental injury and death reports

Duty status

Medical status

Job disposition after injury
Number of man-days lost

Degree of injury

11. Procedure/precaution cause factors

Operating procedures

Safety precautions

Test procedures

Maintenance procedures

12. Environmental cause factors

Wind

Seas

Humidity

Lighting

Temperature

Radiation

Noise Level

Ventilation vibration

c. Sources of Information

1. Original Data Base

Information is submitted from the unit of occurrence for both military and civilian personnel according to the type of incident involved.

2. Edits on Data

Data are reviewed for general consistency and adherence to accuracy for report submission when they arrive at the Naval Safety Center. If inconsistencies are noted, a message requesting clarification is sent to the field. Normally, a message is transmitted from the field for the more important data and these data are expanded by Form 5100 at a later date.

3. Form in which Information is Presently Available

Information from the forms submitted by the units is extracted by the Naval Safety Center and stored on computer files. Retrieval can be made for any of the variables. Reports transmitted to higher levels are normally translated into dollar cost. Summary information is also provided to the fleet commanders.

4. Lag-time

When major accidents occur, telephone or electrical messages are dispatched immediately, and followed by 5102 forms. In the case of aviation accidents or ship collisions, notification is made within four hours. All major aircraft accidents are received at the Center immediately. In instances where property damage of over \$200,000 is involved, five or more men hospitalized, or a death has occurred, reporting is required within two working days. Other accidents not falling into these or other special categories are reported on a quarterly basis.

II. Psychometric Properties

a. Areas of Most Confidence

Confidence in these data varies. Naval Safety Center personnel displayed the most confidence in information dealing with fatalities, serious injury, and dollar cost, and in major units such as shore installations, aircraft units, aircraft carriers, or wherever full-time safety personnel are assigned. Exact aviation figures are available. Less confidence was displayed in data dealing with less serious accidents or incidents. Naval Safety Center personnel estimate that major accident events represent about 10% of those incidents reported for all categories.

b. Sources of Potential Bias and Problems

Bias would be expected in the areas of data omission relating to human

error or supervisory error. Aviation incidents involving no damage or injury may not be reported at times.

Estimating accident data accuracy by comparing the results from accident reports with other related data sources has not always been fruitful. For example, approximately two years ago, accident data were compared to hospital admissions, and at that time about six times more hospital admissions were reported for injuries than were reported in accident reports, suggesting that the accident reports were not complete. However, one explanation given for these differences was that hospital admissions were reported by diagnostic category. That is, if a person had multiple injuries or problems, all would be included in the hospital report while only a single accident report would be filed.

Finally, base rates may be relatively low within units, and because of different mission requirements/exposure, etc., comparisons across units may be difficult. However, it should be noted that much interesting work has been done comparing various units, aircraft types, and ship-accident rates.

III. General Comments

Naval Safety Center personnel were interested in the relationships between accident data and other variables, and as indicated above, have initiated several such studies. For example, the Statistics and Mathematics Department of the Naval Safety Center has recently examined the relationships between accidents and 88 items on the Human Resource Management survey. They suggested that the data base be broadened, but they were sufficiently encouraged with the obtained relationships to expand the study to 42 squadrons using mishaps/10,000 flight hours as one of the variables. The results of this follow-on investigation did not, however, result in strong correlations. Other studies included relationships between aircraft mishaps and pilot proficiency factors, carrier landing mishaps, etc.

Selected safety data are employed in the Unit Outcome Criterion Comparison, HRMD, Mayport, Florida.

IV. Attachments

Quarterly Report of Navy Occupational Injuries and Illnesses
OPNAVINST 5100-18A

Material (Property) Damage Report OPNAV 5102-2

Accidental Injury/Death Report OPNAV 5102-1

Motor Vehicle Accident Report OPNAV 5102-4

Log of Navy Occupational Injuries and Illnesses OPNAV 5100/10 OSHA No. 100F modified.

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QPNAY 5100/5 (Rev 11-76) QBHA No. 102F (Modified)

QUARTERLY REPORT OF NAVY OCCUPATIONAL INJURIES AND ILLNESSES

CPNAVINST \$100.18

	lary Military Personnel (MM)					C.1	a of Reporting	Assimtyl		(Zip)
l. Aspartir	Newton Cay Year (Quarter Enging)					E. (Perent	Commend)			
						LOST WOR	KDAY CASE		NONFATAL CASES	TERMINA- TIONS OR PERMA-
Code	Injury and Illness Category		TOTAL CASES Assumed of entries in Col. 7 of the loo. (1)	DEATHS Number of entries in Col. 8 of the teg. (2)	Total Leet Workday Coses Number of checks in Col. 9 of 19e log. (3)	Cases Invalving Days Away From Work Number of entries in Col. 9A of 1ne see. (4)	Days Away From Work Sum of entries in Cni. 9A of 1ne log. (5)	Doys of Restricted Wark Assivity Sum of entries in Cnl. 90 of the loe, (6)	WITHOUT LOST WORKDAYS Number of checks in Cal. 10 of the log. (7)	NENT TRANS FERS Number of checks in Cot. 13 on the ton.
10	Occupational Injuries	CIV								
	Occupational Illnesses									11
21	Occupational Skin Diseases or Diseases	CIV								
22	Ouet diseases of the lungs (pneumoconicess)	CIV								
23	Regaratory conditions due to toxic agents	CIV								
24	Paisoning (systemic effects of toxic meterials)	CIV								
25	Disorders due to physical agents (other than toxic materials)	CIV								
26	Distribute to reposing troums	CIV								
29	All other obsupational illnesses	CIV								
30	Total accupitional illnesses (21-29)	CIV								
31	Tutal - decupational injuries and illnesses (10 plus 30)	CIV								
40	Total hours worked by CIV personnel Total hours worked by MIL personnel				(This Reportin	-				
50	Avg. No. of CIV personnel Avg. No. of MIL personnel				(This Reportin					
51	Average work weak for personnel	ClV Check this box only when average work week for all (sersonnel is less than 30 hours or more than 60 hours per week.								

"Monfalet Cases Without Less Workdays — Cases resulting in: Modical treatment beyond first aid, diagnosts of occupational kiness, feet in consciousness. Or transfer to amount 100 (without lost worlddays).

Parson Proporing Hopert	Tot. No. (if monitable

. ..

INSTRUCTIONS FOR REPORT PREPARATION - OPNAY 5100/5 (Rev. 11-76), OSHA NO. 102F (MODIFIED)

Insert a check-mark (\checkmark) in the appropriate square box to identify data contained in the report as civilian or military personnel. Neatly handprinted reports are acceptable. No forwarding letter is required.

Reporting Period. Insert the last calendar day covered by the report. The month, day, and year should be recorded numerically in the square boxes as:

1977. This means the period 1 January to 31 March 1977.

Name of Activity. Self-explanatory. UIC Code. Unit Identification Code, per NAVCOMPT Manual (NAVSO P-1000-25).

Address. Insert the address of the reporting activity.

Parent Command. Major command to which activity reports (Examples: NAVAIRSYSCOM, CINCPACELT, BUMED, etc.).

Specific instructions for completing the quarterly report are as follows:

- A. Column A. Record entries for civilian personnel (CIV) and military personnel (MIL) in appropriate blocks for each Code line.
 - Code 10 Occupational injuries (identified by code 10 in Column 7 of each OSHA Form 100F, Log of Occupational Injuries and Illnesset). Record the following on the line designated by code 10 on the OSHA Form 102F.
 - Column 1. Total Cases. Count the number of times code 10 appears in Column 7 of each OSHA Form 100F. Enter the total of this count under Column 1 of the OSHA Form 102F.
 - Column 2. Deaths. For all code 10 entries, count the number of times a date appears in Column 8 of each OSHA Form 100F. Enter the total of this count under Column 2 of the OSHA Form 102F.
 - Column 3. Number of Cases. For all code 10 eatries, count the number of entries in column 9 under Column 3 of the OSHA Form 102F.
 - Column 4. Lost Workday Cases. For all code 10 entries, count the number of entries in Column 9A of each OSHA Form 100F. Enter the total of this count under Column 4 of the OSHA Form 102F.
 - Column 5. Number of Lost Workdays. For all code 10 entries, add the number which appear in column 9A of each OSHA Form 100F. Enter the total of this addition under Column 5 of the OSHA Form 102F.
 - Column 6. Days of Restricted Work Activity. For all code 10 entries, add the numbers which appear in Column 9B of each OSHA Form 100F. Enter the total of this addition under Column 6 of the OSHA Form 102F.
 - Column 7. Number of Cases. For all code 10 entries, count the number of times a check appears in Column 10 of each OSHA Form 100F. Enter the total of this count under Column 7 of the OSHA Form 102F.
 - Column 8. Termination or Transfer. For all code 10 entries, count the number of times a check appears in Column 11 of each OSHA Form 100F.

 Enter the total of this count under Column 8 of the OSHA Form 102F.
- CHECK: From the totals entered according to the instructions above, an easy check for accuracy can be made. Add the entries under Columns 2, 3, and 7; and this total must equal the entry for Column 1. (Columns 2 + 3 + 7 = Column 1.)
- B. (Codes 21 through 29) Occupational Illness Codes. Follow the procedure for A above for each illness code, entering the totals on the appropriate line of this form.
- C. (Code 30) Total of Occupational Illnesses. Add the entries for codes 21 through 29 in each column, and enter totals on the line for code 30. If none, so state.
- D. (Code 31) Total of Occupational Injuries and Illnesses. Add the entries for codes 10 and 30 in each column and enter total on the line for code 31. If none, so state.
- CHECK: If the summary has been made correctly, the entry in Column 1 of the total line (code 31) of this form will equal the total number of cases on the log.
- E. (Code 40) Total Hours Worked During this Reporting Period. For full-time military and civilian personnel, report hours worked, calculated as follows: To estimate, take the average actual personnel assigned and multiply by 500 to obtain total man-hours worked for the quarter. (NOTE: Use 750 hours for military personnel affoat.) To this total add actual hours for part-time personnel. If actual hours worked data is readily available, this data may be used. Actual hours worked includes overtime and excludes vecations, holidays, sick leave, and lost time due to injury or illness. If strength figures are classified, do not report. Instead, enter the word "Classified."
- F. (Code 50) Number of Employees this Reporting Period. Use end of quarter strength figures for both military and civilian personnel. If strength figures are classified, do not report. Instead, enter the word "Classified."
- G. (Code 51) Average Workweek. If the average workweek is approximately 40 hours, leave blank. If the average workweek is less than 30 or more than 50 hours, check the appropriate box.
- H. All entries in Code 40 and 50 should be made to the nearest whole number.
- If an employee's loss of workdays is continuing at the time the fourth quarter report of the calendar year is being made, estimate the number of future workdays he will lose and add that estimate to the workdays he has already lost in the fourth quarter and include in the fourth quarter submission. No further entries are to be made with respect to such cases in any following report.
- J. The annual summetion will be the sum of the four quarterly reports of the calendar year.
 NOTE: Blocks 46 through 51 must be completed on all reports even though no occupational injury or lilness is experienced during the reporting period.
- A lost workday case recorded in Column 3 will be entered only in the quarter in which it occurred. For the 1st, 2nd and 3rd quarterly reports enter the actual number of workdays lost in that quarter.

58 MATERIAL (PROPERTY) DAMAGE REPORT OPNAV 5102/2 (5-76)

FOR OFFICIAL USE ONLY

REPORT SYMBOL OPNAV 5102-2

S/N 0107-LF-051-0210 Page 1 of 4 Pages INSTRUCTIONS COMMANDER TO: NAVAL SAFETY CENTER NAVAL AIR STATION Complete instructions for filling out this form are contained in OPNAVINST 5102.1. B. The entire form may be hand printed. Legibility is important.
C. Where blocks are provided for the individual characters of the data follow these rules:
(1) If the entry is letters place the first letter in the left-hand block: NORFOLK, VA 23511 (2) If the entry is a number place it so that the last digit is in the right-hand block. THIS SPACE FOR NAVSAFECEN USE only YR MO DAY LOG LINE VEHICLE TRANSACTION FILE BLANK EVENT A DATE 14 15 16 SECTION A - GENERAL 1. REPORTING ACTIVITY (Omit U.S. and USS) 2. SHIP TYPE/HULL 3. UIC 4. REPORT SERIAL 23 24 25 26 27 5. ACCIDENT DATE 6. LIGHT CONDITION 7. PARENT TYCOM, SYSCOM, or BUREAU of reporting activity. ADEQUATE INADEQUATE (Explain Item 28) B. INADEQUA 28 8. GEOGRAPHIC LOCATION where accident occurred (Place name, port, body of water, etc.) 9. SHIP STATUS A. UNDERWAY
B. ANCHORED
C. MOORED
D. SUBMERGED
E. DRY DOCK
Z. OTHER (Speci 10. LOCATION ABOARD ACTIVITY where accident occured (Main Engine Rm, Machine Shop, Warehouse, etc.) (If not aboard reporting activity, give 11. EVOLUTION at time of accident (UNREP, NGFS, ASW, etc.) (If aircraft is involved, give model, buno, reporting custodian and mishap serial) SECTION 8 - MATERIAL (PROPERTY) DAMAGE 12. EQUIPMENT DAMAGED/DESTROYED as a result of the accident. (List only major or operationally most significant equipment(s) here - if damage/loss is extensive, give description of B. EIC (if available) TEC (if available) NATIONAL STOCK NO. A. NAME, MK/MOD, MODEL, etc. of equip nent C. DESCRIBE THE EXTENT OF THE DAMAGE (Indicate which is used) 13. NO. REPORTABLE INJURIES/DEATHS 14. COST TO REPAIR/REPLACE DAMAGE (Do not include aircraft costs) THIS ACCIDENT Military Othe 20 21 22 Man-Days Labor S 15. OPERATING DAYS LOST 16. ACTIVITY to which material (property) is assigned for accounting purposes, if not the reporting activity. 33 34 35

MATERIAL (PROPERTY) DAMAGE REPORT (Continued)

OPNAV	5102	/2	(5-76)
C/N 0107	1 5.06	11.0	210

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59 REPORT SYMBOL OPNAV 5102-2 Page 2 of 4 Pages

S	SECTION C - DAMAGE CONTROL 8 (Forces Afloat only)		NOT APPLICABLE
17. CLASS FIRE 18. FIRE CONTROLLED/EXTIN	NGUISHED BY	19. FLOODING CONTROLLED/DEWATERED	Y
A. CLASS A B. CLASS B C. CLASS C C. CLASS C 36 D. CLASS D 37 38 39 40 D. AFFF	Z. OTHER (specify)	A. INSTALLED SYSTEM 8: PORTABLE EDUCATOR C. SUBMERSIBLE PUMP D. P-250	Z. OTHER (Specify)
EF	FFECTIVE; (2) EQUIPMENT WHICH WAS N	MICH WAS USED AND WAS EITHER INEFFECTIVE NOT AVAILABLE BUT WOULD HAVE BEEN USEFU HT FROM OUTSIDE THE APPROPRIATE REPAIR/F	L AND: (3) EQUIPMENT
	SECTION D - NARRATIN	'E	
22. DESCRIBE THE CHAIN OF EVENTS LEADING UP TO IT HAPPENED. DETAILED INFORMATION GIVEN B	O AND THROUGH THE ACCIDENT TO AI	D IN THE ANALYSIS OF WHAT HAPPENED, HOW IT	HAPPENED AND WHY
23. COMMANDING OFFICER (OR AUTHORIZED DEPUT ACTION RECOMMENDED TO HIGHER AUTHORITY	TY) REVIEWS AND COMMENTS. INCLUD	ES CORRECTIVE ACTION TAKEN LOCALLY AND/	OR CORRECTIVE
24. NAME, TITLE, TELEPHONE NO. (if applicable) OF PE PREPARING THIS REPORT	RSON DATE SIGNED	COMMANDING OFFICER (OR AUTHORIZED DEPO (printed name and rank)	TY)
		(signature)	
ENCLOSURES OPNAV \$102/2E PHOTOGRAPHS OPNAV \$102/2E			

S/N 0107-LF-051-0210

SECTION E - CAUSE FACTOR

In assigning cause factors the bare details of the accident and the determination of specific circumstances represent nothing more than a point of departure for further detailed analysis. It is not enough to conclude that an accident was caused by "poor judgment", "human error" or an "Act of God". The validity of conclusions about an investigation must be based upon the "why" of the accident, the reason for the sometimes obvious, sometimes obscure errors which may initiate or contribute to a mishap. Without this knowledge, projections from the immediate accident to other possibly similar situations cannot be made and accident prevention efforts will be degraded. Answers to the "why" of accidents only become available if the proper questions are asked. This section provides these questions.

5. PERSONNEL CAUSE FACTORS					NOT A CAUSE FACTOR
		INSTRUCTIONS			
. WHO? : Enter the number from LIST A which b	est descri	bes WHO was a cause factor.	Make your cho	pice based on v	what the person was doing and not on hi
title. WHAT?: Enter the number from LIST B which b	est descri	bes WHAT the person in Item	A did not do	which was a ca	use factor in this accident
. WHY? : Enter the number(s) (up to 4) from LIS	T C which	h best describe WHY the pers	on in Item A di	id not do the a	action in Item B.
5-1. PERSON NUMBER 1 - A PERSON WHO WAS A CAUSE	FACTOR				
. WHO? B. WHAT? C. WHY? (up to 4)		D. JOB OR ACTIVITY ENGA	GED IN AT TIME	OF THE	E. MONTHS EXPERIENCE AT JOB OR
1. 11. 11. 1. 1.	1 .	ACCIDENT			ACTIVITY SHOWN IN ITEM D
23 24 25 26 27 28 29 30 31 32	33 34				35 36
. RANK/RATING OR GRADE AND JOB TITLE	G. HC	URS SINCE LAST SIGNIFI-	H. ADDITIONAL	COMMENTS	
	CA	NCE SLEEP			
		38 39			
5-2. PERSON NUMBER 2 - ANOTHER PERSON WHO WAS	A CAUSE				
. WHO? B. WHAT? C. WHY? (up to 4)	- CHOOL	D. JOB OR ACTIVITY ACTU	ALLY ENGAGED	IN AT	E. MONTHS EXPERIENCE AT JOB OR
	1	THE TIME OF THE ACCID			ACTIVITY SHOWN IN ITEM D
	50 51				52 53
RANK/RATING OR GRADE AND JOB TITLE		CANCE SLEEP	H. ADDITIONAL	COMMENTS	
	1_	56 56			
3. PERSON NUMBER 3 - ANOTHER PERSON WHO WAS	A CAUSE	FACTOR.			
. WHO? B. WHAT?		D. JOB OR ACTIVITY ENGA	GED IN AT THE	TIME OF	E. MONTHS EXPERIENCE AT JOB OR
!	1 .	THE ACCIDENT			ACTIVITY SHOWN IN ITEM D
58 58 59 60 61 62 63 64 65 66	67 68				69 70
RANK/RATING OR GRADE AND TITLE			. ADDITIONAL	COMMENTS	1 691 70
	CA	NCE SLEEP			
		72 73			
	LIST	A - WHO WAS A CAUSE F			
Supervisor/Foreman Operator			Watchstander	any free free all	l off-duty accidents)
3. Maintenance worker			Other (specify		i ojj-duty accidents/
4. Quality Assurance/Control Inspector					
	LIS	T B – WHAT DID HE FAIL	TO DO?		
. Correctly operate controls/monitor displays			Plan adequatel		
2. Perform PMS/maintenance properly/completely 3. Recognize hazardous situation			Match task to Coordinate tas		
Use proper caution for known risk			Provide proper		cle
5. Use protective equipment		32.	Supervise prog	ress of work	
 Use proper tool/equipment for job (specify in Iten Take corrective action (time was available) 	(H)		Other (specify		
. Take confective action thine was granable?		77.	Other (specify	in item it	
	119	TC - WHY DID HE FAIL T	O DO IT?		
Behavioral Factors			000111	Desire Prote	
Not convenient/comfortable		ledical Factors	91	Design Facto Restricted vis	
. Lack of concern/interest	62. A	lcohol/hangover	82.	Inadequate w	vork space
Distracted/inattentive		rug use (Note 1) rug abuse (Note 1)			ipment interference (explain in Item H) inavailable tools/equipment (specify in
l. Haste 5. Habit	65. II	Iness (Note 2)		Item H)	
. Overconfidence		hysical Handicap/impairment	85.	Poor design/I	ocation of controls/displays
Excessive Motivation Emotionally aroused (angry, worried, etc.)		ommunication Factors Disrupted communications	99.	Other (explai	n in Hem n)
Training/Experience Factors	72. N	lisunderstanding			
I. Inadequate knowledge of men/equipment		ailure to detect warning signs	al/indications		
2. Insufficient experience/skill/training					

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REPORT SYMBOL OPNAV 5102-2
Page 4 of 4 Pages

28. MATERIAL CAUSE FACTORS	NOT A CAUSE FACTOR L.J
NOTE: This item may not be applicable if OPNAV 5102/2E (Explosive Mi including components if applicable, which caused or contributed to	shap Supplement) is submitted—see Chapter 7, OPNAVIST 5102.1. List all items of Material/equipment, othe accident.
A. NAME, MK/MOD, MODEL, ETC. OF MATERIAL/EQUIPMENT AND/OR COMPONENTS B. EIC (if applicable) TEC (if available) NATIONAL STOCK (inclicate which is use	
26. PROCEDURE/PRECAUTION CAUSE FACTORS	NOT A CAUSE FACTOR L
A WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE ACCIDENT?	WHAT IS WRONG WITH IT? (Give title and identification of source or procedure/precaution)
A. OPERATING PROCEDURE B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify)	
B. WHAT IS WRONG WITH IT?	
A. INADEQUATE 8. INCOMPLETE C. INCORRECT	
D. NON-EXISTENT E. NOT POSTED	
	NOT A CAUSE FACTOR
28. ENVIRONMENTAL CAUSE FACTORS	
TRIBUTED TO THE ACCIDENT? (enter up to 4) or expe	WERE THE SPECIFIC CONDITIONS AND THEIR EFFECT? (Indicate if the conditions were normal/abnormal reted/unexcepted):
A. WIND H. TEMPERATURE 8. SEAS J. VISIBILITY C. SWELL K. E. M. RADIATION D. CURRENT L. NOISE LEVEL	
E. TIDE M. VIBRATION F. HUMBUTY N. VENTILATION G. LIGHTING Z. OTHER (Specify)	
76 77 78 79	
29. REMARKS. Use this spece to expend or explain the cause factors as	required.

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REPORT SYMBOL OPNAV 5102-1
Page 1 of 4 Pages

TO: COMMANDER, NAVALSAFETY CENTER, NAVAL AIR STATION, NORFOLK, VA 23511					
A. Complete instructions for filling out this form are contained in OPNAVINST 5102.1 B. The entire form may be hand printed. Legibility is important. C. Where blocks are provided for the individual characters of the data follow these rules: (1) If the entry is letters place the first letter in the left-hand block. (2) If the entry is a number place it so that the last digit is in the right-hand block.					
THIS SPACE FOR NAVSAFECEN USE ONLY					
YR MO DAY LOG LINE VEHICLE PERSO	ONNEL FILE				
EVENT 01 02 03 04 05 06 07 08 09 10 11 12 1	3 14 15 16 17 18				
	A – GENERAL				
1. REPORTING ACTIVITY (omit U.S. and USS)	2. SHIP TYPE/HULL 2. UIC 4. REPORT SERIAL NO. 23 24 25 26 27				
5. INJURY DATE 6. LIGHT CONDITION A. ADEQUATE 8. INADEQUATE (Explain in Item 38) 28. Z. UNKNOWN	7. PARENT TYCOM, SYSCOM or BUREAU OF PERSON'S PERMANENT DUTY STATION				
8. LOCATION ABOARD ACTIVITY where injury occurred (Main Engine Rm, Machine Shop, M	Varehouse,etc.) 9. SHIP STATUS				
(If not abound reporting activity give place name)	A. UNDERWAY B. ANCHORED				
10. EVOLUTION AT TIME OF INJURY (UNREP, NGFS, ASW, etc.) (If aircraft is involved a	c. MOCRED D. SUBMERGED E. DRY DOCK Z. OTHER (Specify)				
	URY/KILLED PERSON polited, see OPNAVINST 5102.1				
11. NO. REPORTABLE INJURIES/DEATHS 12. NAME (Last, initials) THIS ACCIDENT	13. SOCIAL SECURITY NUMBER 14. AGE				
30 31 32 33 34 35 36 37 38 39 40 4 15. SEX 16. RANK/RATING OR GRADE AND JOB TITLE	1 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58				
1 1	MIL-In present regularly assigned duties				
59	CIV-In present occupation 60 61				
18. JOB OR ACTIVITY ACTUALLY ENGAGED IN AT TIME OF INJURY (Driving forklift, etc.)					
	21. DUTY STATUS 22. MEDICAL STATUS 62 63 64				
A. USN E. NAVY FEDERAL CIVILIAN B. USNR CIVILIAN G. FOREIGN NATIONAL Z. OTHER (Specify)	A. ON DUTY B. OFF DUTY A. DEAD D. A AND C B. MISSING Z. NONE OF THESE 67 C. HOSPITALIZED				
23. JOB DISPOSITION AFTER INJURY D. EMPLOYMENT TERMINATED DUE	24. NO. OF LOST WORKDAYS				
A. RETURN TO DUTY S. TEMPORARY TRANS TO NEW JOB C. OTHER (Specify)	A. AWAY FROM 7 8. RESTRICTED ACTIVITY 72 73 74				
25. SOURCE OF INJURY (Cut by saw, overcome by fumes, etc.) 28. PERMANENT DUTY STATION OF INJURED PERSON IF NOT REPORTING ACTIVITY					
	27A. MEDICAL DIAGNOSIS FROM MEDICAL DEPARTMENT (Include body part)				
Charles (Toris Bussess Bussess)					
Chemical/Toxic Exposure – Provide as much of the following information as is known: (1) Manufacturer, name of product, manufacturer's stock number,	278. DISABILITY (Check most probable) PERMANENT TOTAL				
manufacturer's part number, NSN, MILSPEC; (2) Type of exposure (inhaled, contact, etc.); (3) Length of exposure.	PERMANENT PARTIAL				
Electric Shock/Electrocution — If portable equipment is involved specify if grounded/ungrounded.	NONE				

OPNAV 5102/2E

	V 5102/1 (5-76) · 07-LF-061-0206				REPORT SYMBOL OPNAV 5102 Page 2 of 4 Page	
-		The same of the last of the la		CTIVE EQUIPMENT	N	T APPLICABLE
E	QUIPMENT / Name, MK/Mod, Model, e	etc.) (Include EIC if available)				
11	NVOLVED IN INJURY	30. NEED AND AVAILA	BILITY		31. EQUIPMENT ADEQ	JACY
5	A. NOT A FACTOR B. REDUCED INJURY C. INCREASED INJURY	A. NOT NEEDED B. AVAILABLE, USED		ABLE, NOT USED VAILABLE, NEEDED	A ADEQUATE B INADEQUATE	C. MISUSED D. FAILED
		SI	CTION D - NARR	ATIVE		
O W	DESCRIBE THE CHAIN OF EVENTS LINEY IT HAPPENED. DETAILED INFO	EADING UP TO AND THROUGH DRMATION GIVEN ELSEWHERE	THE INJURY TO AID IN THE REPORT NEE	IN THE ANALYSIS OF WHED NOT BE REPEATED UN	IAT HAPPENED, HOW IT HAP LESS IT IS REQUIRED FOR (PENED AND
_	COMMANDING OFFICER (of Authoric RECOMMENDED TO HIGHER AUTHO	zed Deputy) REVIEW AND COMM	ENTS. INCLUDE COI	PRECTIVE ACTION TAKE	N LOCALLY AND/OR CORRE	CTIVE ACTION
	NAME, TITLE, TELEPHONE NO. (if a PREPARING THIS REPORT.	pplicable) OF THE PERSON	DATE SIGNED	(Printed name and rank)	ER (or Authorized Deputy)	
					· (signature)	

FOR OFFICIAL USE ONLY SECTION E - CAUSE FACTORS

In assigning cause factors the bare details of the injury and the determination of specific circumstances represent nothing more than a point of departure for further detailed analysis. It is not enough to conclude that an injury was caused by "poor judgment", "human error" or an "Act of God". The validity of conclusions about an investigation must be based upon the "why" of the injury, the reason for the sometimes obvious, sometimes obscure errors which may initiate or contribute to a mishap. Without this knowledge, projections from the immediate injury to other possibly similar situations cannot be made and injury prevention efforts will be degraded. Answers to the "why" of injuries only become available if the proper questions are asked. This section provides these questions.

35. PERSONNEL CAUSE FACTORS		NOT A CAUSE FACTOR
	INSTRUCTIONS	
A. WHO? : Enter the number from LIST A which b title.	st describes WHO was a cause factor. Make your choice based on	what the person was doing and not on his job
B. WHAT? : Enter the number from LIST B which b C. WHY? : Enter the number(s) (up to 4) from LIS	st describes WHAT the person in Item A did not do which was a c C which best describe WHY the person in Item A did not do the	ause factor in this injury. action in Item B.
35-1. PERSON NUMBER 1 - THE INJURED PERSON HIMSE	F IF HE WAS A CAUSE FACTOR	
A. WHO? B. WHAT? C. WHY? (up to 4)	D. (Not applicable)	E. (Not applicable)
23 24 25 26 27 28 29 30 31 32		
F. (Not applicable)	G. HOURS SINCE LAST SIGNIFICANT H. ADDITIONAL COMMENTS	
	SLEEP	
	38 39	
35-2. PERSON NUMBER 2 - ANOTHER PERSON WHO WAS	A CAUSE FACTOR	
A. WHO? B. WHAT? C. WHY? (up to 4)	D. JOB OR ACTIVITY ACTUALLY ENGAGED IN AT THE	E. MONTHS EXPERIENCE AT JOB or ACTIVITY
	I I I I I I I I I I I I I I I I I I I	SHOWINITEMD
40 41 42 43 44 45 46 47 48 49	50 51	52 53 54
F. RANK/RATING OR GRADE AND JOB TITLE	G. HOURS SINCE LAST H. ADDITIONAL COMMENTS	
	SIGNIFICANT SCEEP	
	55 56	
35-3. PERSON NUMBER 3 - ANOTHER PERSON WHO WAS	A CAUSE FACTOR.	
A. WHO? B. WHAT? C. WHY? (Up to 4)	D. JOB OR ACTIVITY ACTUALLY ENGAGED IN AT THE	E. MONTHS EXPERIENCE AT JOB or ACTIVITY
	I I I I I I I I I I I I I I I I I I I	SHOWN IN TEM D
57 58 59 60 61 62 63 64 65 66	67 68	69 70 71
F. RANK/RATING OR GRADE AND JOB TITLE	G. HOURS SINCE LAST H. ADDITIONAL COMMENTS	
	SIGNIFICANT SLEEP	
	72 73	
	LIST A - WHO WAS A CAUSE FACTOR?	
11. Supervizor/Foreman 12. Operator	15. Watchstander 16. Off-duty military (use fo	e all off-duty injuries)
13. Maintenance worker		an off-auty injuries)
14. Quality Assurance/Control Inspector	99. Other (specify)	
	LIST B - WHAT DID HE FAIL TO DO?	
21. Correctly operate controls/monitor displays 22. Perform PMS/maintenance properly/completely	28. Plan adequately 29. Match task to man's abil	itv
23. Recognize hazardous situation	30. Coordinate tasks	
24. Use proper caution for known risk 25. Use protective equipment (Complete Section C)	31. Provide proper work/res 32. Supervise progress of wo	t cycle
26. Use proper tool/equipment for job (specify in Item 27. Take corrective action (time was available)	H) 33. Inspect completed work	
27. Take corrective action (time was available)	99. Other (specify in Item H	
	LIST C - WHY DID HE FAIL TO DO IT?	
Behavioral Factors		ure to detect warning signal/indicator
41. Not convenient/comfortable 42. Lack of concern/interest	62. Alcohol/hangover 81. Res	gn Factors tricted vision
43. Distracted/inattentive 44. Haste	63. Drug use (Note 1) 82. Inac	lequate work space
45. Habit	65. Illness (Note 2) Item	onal equipment interference (explain in
46. Overconfidence 47. Excessive Motivation	66. Physical Handicap/impairment 84. Inac	lequate/unavailable tools/equipment (specify
48. Emotionally aroused (angry, worried, etc.)	71. Disrupted communications 85. Poo	r design/location of controls/displays
Training/Experience Factors	72. Misunderstanding 99. Oth	er (explain in Item H)
51. Inadequate knowledge of men/equipment 52. Insufficient experience/skill/training		
	as prescribed or (2) Non-prescription drugs/medicine used as dire	ected - any other use of drugs/medicine is
drug abuse. NOTE 2: If the illness is a result of present or past emp		
If the miless is a result of present of past city	THE PARTY OF THE P	

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REPORT SYMBOL OPNAV 5102-1
Page 4 of 4 Pages

36. MATERIAL CAUSE FACTORS		NOT A CAUSE FACTOR
NOTE: This item may not be applicable if OPI including components, if applicable, we	NAV 5102/2E (Explosive Mishap Supplen which caused or contributed to the injury.	nent) is submitted see Chapter 7, OPNAVIST 5102.1. List all items of material/equipment.
A NAME, MK/MOD, MODEL, ETC. OF MATERIAL/EQUIPMENT AND/OR COMPONENTS	B. EIC (if available) TEC (if available) NATIONAL STOCK NO. (indicate which is used)	C. EXPLAIN HOW IT CONTRIBUTED TO THE INJURY AND, IF APPLICABLE, THE NATURE AND CAUSE OF THE FAILURE/MALFUNCTION.
7. PROCEDURE/PRECAUTION CAU	ISE FACTORS	NOT A CAUSE FACTOR
WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE INJURY? A. OPERATING PROCEDURES B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE		NOT A CAUSE FACTOR
WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE INJURY? A. OPERATING PROCEDURES B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify)		
WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE INJURY? A. OPERATING PROCEDURES B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify) WHAT IS WRONG WITH IT? A. INADEQUATE B. INCOMPLETE C. INCOMPLETE C. INCOMPRECT		
WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE INJURY? A. OPERATING PROCEDURES B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify) WHAT IS WRONG WITH IT? A. INADEQUATE B. INCOMPLETE		
L WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE INJURY? A. OPERATING PROCEDURES B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify) WHAT IS WRONG WITH IT? A. INADEQUATE B. INCOMPLETE C. INCOMPLETE C. INCORRECT D. NON-EXISTENT E. NOT POSTED Z. OTHER (Specify)	C. SPECIFICALLY WHAT IS WRO	
WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE INJURY? A. OPERATING PROCEDURES E. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify) WHAT IS WRONG WITH IT? A. INADEQUATE E. INCORRECT D. NON-EXISTENT E. NOT POSTED Z. OTHER (Specify) 8. ENVIRONMENTAL CAUSE FACT WHAT ENVIRONMENTAL CONDITIONS	C. SPECIFICALLY WHAT IS WRO	NOT A CAUSE FACTOR SPECIFIC CONDITIONS AND THEIR EFFECT? (Indicate if the conditions were normal/abnormal
L WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE INJURY? A. OPERATING PROCEDURES B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify) WHAT IS WRONG WITH IT? A. INADEQUATE B. INCOMPLETE C. INCOMPLETE C. INCOMPLETE Z. OTHER (Specify) 8. ENVIRONMENTAL CAUSE FACT WHAT ENVIRONMENTAL CONDITIONS CONTRIBUTED TO THE INJURY? (Enter A. WIND A. WIND A. WIND A. WIND A. TEMPERATURE B. SEAS J. VISIBILITY C. SWELL R. E. M. RADIATION D. CURRENT L. NOISE LEVEL	C. SPECIFICALLY WHAT IS WRO	ONG WITH IT? (Give title and identification of source of procedure/precaution) NOT A CAUSE FACTOR SPECIFIC CONDITIONS AND THEIR EFFECT? (Indicate if the conditions were normal/abnormal.)
A. OPERATING PROCEDURES B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify) B. WHAT IS WRONG WITH IT? A. INADEQUATE B. INCOMPLETE C. INCORRECT D. NON-EXISTENT E. NOT POSTED Z. OTHER (Specify) BB. ENVIRONMENTAL CAUSE FACT WHAT ENVIRONMENTAL CONDITIONS CONTRIBUTED TO THE INJURY? (Enter A. WIND B. SEAS J. VISIBILITY C. SWELL K. E. M. RADIATION	C. SPECIFICALLY WHAT IS WRO	ONG WITH IT? (Give title and identification of source of procedure/precaution) NOT A CAUSE FACTOR SPECIFIC CONDITIONS AND THEIR EFFECT? (Indicate if the conditions were normal/abnormal)
WHAT PROCEDURE/PRECAUTION CONTRIBUTED TO THE INJURY? A. OPERATING PROCEDURES B. SAFETY PRECAUTION C. TEST PROCEDURE D. MAINTENANCE PROCEDURE Z. OTHER (Specify) I. WHAT IS WRONG WITH IT? A. INADEQUATE B. INCOMPLETE C. INCORRECT D. NON-EXISTENT E. NOT POSTED Z. OTHER (Specify) III. WHAT ENVIRONMENTAL CAUSE FACT WHAT ENVIRONMENTAL CONDITIONS CONTRIBUTED TO THE INJURY? (Enter A. WIND B. SEAS J. VISIBILITY C. SWELL C. SWE	C. SPECIFICALLY WHAT IS WRO	ONG WITH IT? (Give title and identification of source of procedure/precaution) NOT A CAUSE FACTOR SPECIFIC CONDITIONS AND THEIR EFFECT? (Indicate if the conditions were normal/abnormal)

TO: COMMANDER, NAVAL SAFETY CENTER, NAVAL AIR STATION, NORFOLK, VA 235	11
A. Complete instructions for filling out this form are contained in OPNAVINST \$102.1. B. The entire form may be hand printed. Legibility is important. C. Where blocks are privided for the individual characters of the data follow these rules: (1) If the entry is letters place the first letter in the left-hand block: (2) If the entry is a number place it so that the last digit is in the right-hand block.	CAUTION: Ensure compliance with the requirements of the Privacy Act of 1974 prior to recording personnel data. (See para 204b of this instruction.)
THIS SPACE FOR NAVSAFECEN USE ONLY	
OATE 01 02 03 04 05 06 07 08 09 10 11	NSACTION .
SECTION A - GENERAL 1. REPORTING ACTIVITY (Umit U.S. and USS) 2.	SHIP TYPE/HULL NO. 3. UIC 4 REPORT SERIAL
1. REPORTING ACTIVITY COST AND USBY	SHIP TYPE/HULL NO. 2. UIC 4 REPORT SERIAL
SECTION 8 - ACCIDENT LOCAT	ION
19	ATE 8. ON SASE 9. ACCIDENT DATE 10. TIME 19. Y VES (min/dex/v7) 19. 20 21. 22. 23. 24. 14. LOCATION (not intersection)
	FROM (less/mark)
15. KIV OF OCALTY AN JAMHOUTTAY S SI JOHN OF STATE OF SING SEED SING SING SING SING SING SING SING SING	D DARK (with armicial left) E DARK 17. WEATHER CONDITION A CLEAR E CLOUDY B RAIN Z OTHER VIS. 45. C SNOW 29 D FCG
	20. MODEL (Pinno, Darr. cic.)
21. STYLE () in school, (10.) 22. Hig CC, FEGOR Share from ST 23. OCT This strong 24. OTH (Spring)	23 VEHICLE A CENSE NUMBER STATE 24 TRAFFIC CONTROL 33 34 35
28. ROAD CHARACTER 28. ROAD CLASSIFICATION 27. ROAD SECOND 28. ROAD CLASSIFICATION 29. ROAD SECOND 29. ROAD SE	URFACE 29 VEHICLE DEFECTS 30 PRE ACCIDENT TION 31
• SECTION D - OPERATOR DAT	
31. VEHICLE NO. 32. NAME (I.au., Jun., initials) 33. S 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 36. RANK/RATING OR CIVIL 37. DESIGNATOR/NEC/CS 38. EMPLOYMENT SERVICE GRADE OCCUPATION CODE STATUS	OCIFE SECULITY NUMBER 34 ALE 35 SEX 28 29 30-31 32 33 34 35 36 36 38 38 38 39 39 39 39 39 39 39 39 39 39 39 39 39
33.713	
41. UIC 42. PARENT TYCOM, SYSCOM, OR BUREAU OF UICENSED 43. PROPERLY LICENSED	44 OPERATOR LICENSE NO. STATE
46. YEARS DRIVING EXPERIENCE A THIS TYPE B. ALL TYPES YEHICLES 51 52 53 54	48. BEHAVIORAL FACTOR 49. TRAINING EXPERIENCE FACTOR 55 56 57 55
50. MEDICAL FACTOR 51. COMMUNICATION FACTOR 52. INJURY 53. SEAT	54. RESTRAINT SYSTEM A INSTALLED 8 USED C EJECTED 5
	DICAL DIAGNOSIS FROM MEDICAL DEPARTMENT
PERMANENT TOTAL PERMANENT PARTIAL DONE	

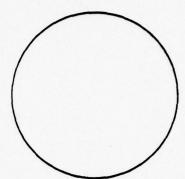
OR VEHICLE ACCIDENT REPORT (Continued) REPORT SYMBOL OPNAV 6102-4 OPNAV 5102/3 (5-76) S/N 0107-LF-051-0220 FOR OFFICIAL USE ONLY SECTION E - OTHER PERSONS INJURED/KILLED NOT APPLICABLE PERSON 1 SE VEHICLE NO. SO. SEQUENCE NO. 61. SOCIAL SECURITY NUMBER 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 RANK/RATING OR CIVIL SERVICE GRADE 38 39 40 41 69. IUC 70. PARENT TYCOM, SYSCOM OR BUREAU OF OUTY STATION 71. DRINKING 72 JAJJAS 43 44 45 46 47 N. NO 73 SEAT 76. JOB DISPOSITION 74 RESTRAINT SYSTEM 78. LOST WORKDAYS C. EJECTED S. RESTRICTED DUTY WORK 54 55 56 DU 51 52 67 68 59 PERMANENT TOTAL PERMANENT PARTIAL NONE PERSON 2 61. SOCIAL SECURITY NUMBER 15 16 27 18 3 20 21 22 23 24 25 28 27 28 29 30 31 32 33 34 36 38 37 67. DUTY STATUS 66. EMPLOYMENT 38 39 42 68 DUTY STATION 71. DRINKING 49 73. SEAT 74. RESTRAINT SYSTEM JOB DISPOSITION 8. USED 51 52 MEDICAL DEP ENT TOTAL PERMANENT PARTIAL SECTION F - MOTORCYCLE DATA 78 VEHICLE NO. 79 WINDSHIELD 80 HELMET 15 16 C NOT WORK INSTALLED NOT INSTALLED W/FAIRING B NOT FASTENED O NOT WORN 83 GLOVES 84 JACKET 85. BOOTS S. REFLECTIVE MATERIAL A HELMET
B. CLOTHING
C. HELMET & CLOTH 19 20 21 22 23 24 NOT APPLICABLE SECTION G - PEDESTRIAN DATA 87 VEHICLE NO 88. SEQUENCE NO. 89 ACTION 90. CLOTHING 91. BEHAVIORAL FACTOR 92. MEDICAL FACTOR B3. COMMUNICATION FACTOR 16 17 SECTION H - GROUND SUPPORT & MATERIAL HANDLING EQUIPMENT DATA NOT APPLICABLE 94 VEHICLE NO. 95. TEC/WUC/EIC 96. MATERIAL FAILURE (WUC/EIC) AND CAUSE OF FAILURE SECTION I - PROPERTY DAMAGE NOT APPLICABLE 97. GOVERNMENT PROPERTY DESCRIPTION (willer then relicit) 98. COST TO REPAIR/REPLACE 000 MAN-HRS (MIL/CIV 99. OTHER PROPERTY DESCRIPTION (whier then reliefe) 100. COST TO REPAIR/REPLACE NON-DOD PROPERTY DAMAGE

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REPORT SYMBOL OPNAY 5102-4

SECTION J - ACCIDENT DESCRIPTION

101. ACCIDENT DIAGRAM. Draw the scene of the socied icase what probably happened by locating impact point and pashs of vahioles prior to and ofter impact. Refer to the I necessary. Indicate the direction of North.



107. ACCIDENT DESCRIPTION. DESCRIBE TH

108. COMMANDING OFFICER (in authorized deputy) RECOMMENDED TO HIGHER AUTHORITY.	REVIEW AND COMMENTS.	INCLUDE CORRECTIVE ACTION TAKEN LOCALLY AND/OR CORRECTIVE ACTION

100. NAME, TITLE, TELEPHONE NO. (If applicable) OF THE PERSON PREPARING THIS REPORT	DATE SIGNED	COMMANDING OFFICER for Authorized deputy) (Printed name and rank)
		(Signerure)
ENCLOSURE		
PHOTOGRAPHS .	 	
CIVIL POLICY INVESTIGATION REPORT		

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OPNAV 5100/10 (11-76) OSHA NO. 100F Modified) S/N-0107-LF-051-0050

LOG OF NAVY OCCUPATIONAL INJURIES AND ILLNESSES

RECORDABLE CASES. You are required to record information about: every occupational death; every nonfaral occupational illuses; and those nonfaral occupational injuries which involve one or more of the following: loss of workdays, loss of consciousness, transfer to another job, or medical treatment (other than first aid). More compass definitions

CASE OR INJURY OR FILE ONSET OF				DESCRIPTION OF INJURY OR ILLNESS	3		EXTENT	EXTENT OF AND OUTCOME OF CASES			
				Nature of Injury or Illness and Part(s) of			.507	LOST WORKDAY CASES	SES	NONFATAL	TERMINATIONS OR PERMANENT
		OCCUPATION	DEPARTMENT	Body Affected	_			LOST WO	LOST WORKDAYS	WITHOUT LOST	
ILLINESS	R EMPLOYEE'S NAME (First name or initial, middle initial, last name)	lender regular job title, not activity employee was performing when injured or at onset of illness.)	(Enter department in which the employee is regularly employed.)	(Typical entries to this column might be: might be: Amputation of 1st joint right forefinger Strain of flower back Contact dermatits on both hands Efectiocution-buck	Code Codes See codes at bottom of page.		Enter a check if case involved lost workdays.	Enter number of days AWAY FROM WORK due to injury or illness.	Enter number of days of RESTRICTED WORK ACTIVITY due to injury	(Enter a check of no entry was made in columns 8 or 9 but the case is recordable.	(Enter a check if the entry in columns 9 or 10 represented a termination or permanent transfer.)
(1) (2)	(3)	3	(5)	(9)	(1)	(8)	(8)	(9A)	(96)	as defined above.) (10)	(11)
						1					
				•							
			•	+							
			Injury Code				Illness Codes				
Command/Activity			10 All occupational injuries	3 5 5	Occupational skin diseases or disorders Dust diseases of the lungs (pneumoconioses)	ses or disord gs (pneumo			Disorders due to physical agents (other than toxic materials)	ents fother than	
Modern					Poisoning (Systemic effects of toxic materials)	ects of toxi	ls!	29 All other o	Disorders due to repeated trauma All other occupational illnesses	auma ses	

ADMIN MASTER FILE

NUMBER 1000.19

DATE November 18, 1976



Department of Defense Instruction

SUBJECT

Mishap Investigation, Reporting and Record Keeping

Refs:

- (a) DoD Instruction 7730.7, "Report of Accidents and Injuries," June 19, 1970 (hereby cancelled)
- (b) DoD Instruction 7700.19, "Recordkeeping and Reporting of Occupational Injuries and Illnesses to Civilian Employees," March 24, 1972 (hereby cancelled)
- (c) DoD Directive 1000.3, "Accident Prevention, Safety, and Occupational Health Policy for the Department of Defense," June 15, 1976
- (d) DoD Instruction 7730.12, "Notification Procedures for Accidents and Significant Incidents Involving Nuclear Weapons, Reactors, and Badioactive Materials," August 1, 1976
- (e) DoD Instruction 7700.14, "Accident Reporting Procedures for Ammunition, Explosives, and Chemical Agents and Systems,"
 June 5, 1970 (hereby cancelled)
- (f) DoD 5154.4S, "DoD Ammunition and Explosives Safety Standards," Authorized by DoD Directive 5154.4, October 23, 1971
- (g) Executive Order 11807, "Occupational Safety and Health Programs for Federal Employees," September 28, 1974
- (h) Title 29, Code of Federal Regulations, Part 1960, Safety and Health Provisions for Federal Employees," October 9, 1974
- (i) DoD Directive 5400.7, "Availability to the Public of Department of Defense Information," February 14, 1975
- (j) JCS, Joint Reporting Structure, Volume II, Part 2, Operational Status Reports, May 1974
- (k) DoD Instruction 7230.8, "Leases and Demonstrations of DoD Aircraft," June 9, 1976

PURPOSE

This Instruction:

- A. Consolidates references (a), (b) and (e) into a single document;
- B. Prescribes standardized reports on accidents and occupational illnesses to (1) keep the Secretary of Defense informed on the loss of assets through mishaps, (2) provide a factual basis for the allocation of resources in support of Department of Defense mishap prevention programs, and (3) comply with the Occupational Safety and Health Administration (OSHA) reporting requirements under references (g) and (h);
- C. Provide reporting formats and instructions for preparing reports to fulfill the needs generated by references (c), (f), (g), and (h).

INSTRUCTIONS FOR PREPARING OSHA FORM 100F LOG OF OCCUPATIONAL INJURIES AND ILLNESSES

- A. A separate log will be maintained for each DoD installation or distinctly separate DoD activity in accordance with the DoD Componets' established procedures for administrative reporting.
- B. A separate log will be kept for military and civilian personnel. On duty injuries and occupational illnesses will be entered on the log within six working days of notification of such occurrences.
- C. The procedures outlined below will be used to tabulate the required data:
 - 1. Column 1 Case Number. Start with No. 1 for the first case of the calendar year, and continue in numerical sequence.
 - 2. Column 2 Date of Injury or Illness. Enter the work date of the accident which resulted in injury. Enter the date of initial diagnosis of occupational illness, or, if absence occurred before diagnosis, enter the date of the first day of absence.
 - 3. Column 3 Employees Name and Grade, self-explanatory.
 - Column 4 Occupation. DoD Component's civilian position title or military job classification code and title.
 - Column 5 Department. Use standard DoD Component organizational symbols.
 - 6. Column 6 Description of Injury or Illness. Enter a brief description of the injury or illness, and indicate the part or parts of body affected. Where entire body is affected, the entry "body" can be used. Typical entries for this column might be: amputation of first joint, right forefinger, strain of lower back, contact dermatitis on both hands, electrocution.
 - 7. Column 7 Injury or Illness Code. Enter the code which most accurately describes the nature of the illness or injury. In order to associate occupational injuries and illnesses with DoD mishap categories, letter codes may be used in addition to the OSHA numerical codes, as illustrated below:

a.	OSHA Occupational Injury Code	DoD Mishap Category
	10A	Aircraft Mishap
	1 OB	Flight Related Mishap
	1 OC	Marine - Underway
	100	Marine - Not Underway
	1 O E	Diving
	10F	Miceila

OSHA Occupational Injury Code	DoD Mishap Category
10G	Explosive/Chemical Agents
10H	GMV
101	PMV (Official Travel)
10J	Combat Training
10K	Fire
101.	Other Ground (On Duty)
10M	Contractor (DoD Personnel
	Injured as a Result of DoD
	Contractor's Operations)

- b. OSHA Occupational Illness Codes. The following OSHA numerical codes will be used and may include the appropriate category code letter, as shown above, for Code 10 injuries.
 - (1) Code 21 Occupational skin diseases or disorders. Examples: Contact dermatitis, eczema, or rash caused by primary irritants and sensitizers or poisonous plants; oil acne, chrome ulcers, chemical burns or inflammation, etc.
 - (2) Code 22 Dust diseases of the lungs (pneumoconioses). Examples: Silicosis, asbestosis, coal worker's pneumoconiosis, byssinoisis, and other pneumoconioses.
 - (3) Code 23 Respiratory conditions due to toxic agents. Examples: pneumonitis, pharyngitis, rhinitis, or acute congestion due to chemicals, dusts, gases or fumes, farmer's lung, etc.
 - (4) Code 24 Poisoning (systemic effects of toxic materials). Examples: Poisoning by lead, mercury, cadmium, arsenic or other metals, carbon monoxide, hydrogen sulfide or other organic solvents, insecticide sprays such as parathion, lead arsenate, and other chemicals such as formaldehyde, plastics, and resins, etc.
 - (5) Code 25 Disorders due to physical agents (other than toxic materials). Examples: Heatstroke, sunstroke, heat exhaustion, and other effects of environmental heat; freezing, frostbite and effects of exposure to low temperature; caisson disease; effects of ionizing radiation (isotopes, x-ray, radium); effects of nonionizing radiation (welding flash, ultraviolet rays, microwaves, sunburn), etc.
 - (6) Code 26 Disorders due to repeated trauma. Examples: Noiseinduced hearing loss, synovitis, tenosynovitis, bursitis, Raynard's phenomena, and other conditions due to repeated motion, vibration, or pressure.
 - (7) Code 29 All other occupational illnesses. Examples: Anthrax, brucellosis, infectious hepatitis, malignant and benign tumors, food poisoning, histoplasmosis, coccidiodomycosis, etc.

(Examples: A death as a result of an explosive accident would be coded 10G - Carbon monoxide poisoning in an auto repair facility would be coded as 24L.)

- Column 8 Death. If the occupational injury or illness resulted in death, enter date of death.
- 9. Column 9 Enter a check if the case involved days away from work and/or days of restricted work activity.
- 10. Column 9A Lost Workday Cases Days Lost. Enter the total number of workdays, consecutive or not, that the employee did not work because of occupational injury or illness. Exclude the day of injury and also exclude days when the employee would not have regularly worked.
- 11. Column 9B Lost Workday Cases Restricted Work. Enter the total number of workdays, consecutive or not, that the employee:
 - a. Was assigned to a temporary job, or
 - b. Worked at a permanent job less than full time, or
 - c. Worked at a permanently assigned job, but could not perform all duties normally assigned.
- 11. Column 10 No lost Workday Cases Number of Cases. Enter X for each case of occupational injury or illness which did not involve a death or lost workdays but resulted in:
 - a. Transfer to another job.
 - b. Termination of employment.
 - c. Medical treatment other than first aid.
 - d. Diagnosis of occupational illness.
 - e. Loss of consciousness.
- 13. Column 11 No Lost Workday Cases Transfer or Termination. If the entry in columns 9 or 10 represents a transfer to another job or a termination of employment, enter another X in this column.

INSTRUCTIONS FOR PREPARING OSHA FORM 102F SUMMARY REPORT OF OCCUPATIONAL ILLNESSES AND INJURIES

- A. Four copies of this report will be prepared by each DoD Component and forwarded to the Assistant Secretary of Defense (Installations and Logistics) no later than 40 calendar days following the close of each calendar year.
- B. Each DoD Component shall develop procedures for compiling the data from OSHA Forms 100F and transferring that data to this report.
- C. Prepare separate reports for civilian and military personnel. (Note: OSHA Form 102F uses the term "Military (non-combat) Personnel" for purposes of this form this term includes all on-duty military personnel, as defined in Enclosure 1, who incur injuries/illnesses in reportable mishaps as defined in paragraph VI. C. of this Instruction.)
- D. Do not break out illness and injury codes by mishap category as may be done on the OSHA Form 100F.
- E. Specific instructions for completing the report are as follows:
 - Code 10 Occupational injuries (identified by code 10 in column 7 of each OSHA Form 100F, Log of Occupational Injuries and III-nesses). Record the following on the line designated by code 10 on the OSHA Form 102F.
 - a. Column 1 Total Cases. Count the number of times code 10 appears in column 7 of each OSHA Form 100F. Enter the total of this count under column 1 of the OSHA Form 102F.
 - b. Column 2 Deaths. For all code 10 entries, count the number of times a date appears in column 8 of each OSHA Form 100F. Enter the total of this count under column 2 of the OSHA Form 102F.
 - c. Column 3 Number of Cases. For all code 10 entries, count the number of entries in column 9 of each OSHA Form 100F. Enter the number under column 3 of the OSHA Form 102F.
 - d. Column 4 Lost Workday Cases. For all code 10 entries, count the number of entries in column 9A of each OSHA Form 100F. Enter the total of this count under column 4 of the OSHA Form 102F.
 - e. Column 5 Number of Lost Workdays. For all code 10 entries, add the numbers which appear in column 9A of each OSHA Form 100F. Enter the total of this addition under column 5 of the OSHA Form 102F.

- f. Column 6 Days of Restricted Work Activity. For all code 10 entries, add the numbers which appear in column 9B of each OSHA Form 100F. Enter the total of this addition under column 6 of the OSHA Form 102F.
- g. Column 7 Number of Cases. For all code 10 entries, count the numbers of times an X appears in column 10 of each OSHA Form 100F. Enter the total of this count under column 7 of the OSHA Form 102F.
- h. Column 8 Termination or Transfer. For all code 10 entries, count the number of times an X appears in column 11 of each OSHA Form 100F. Enter the total of this count under column 8 of the OSHA Form 102F.
- i. CHECK: From the totals entered according to the instructions above, an easy check for accuracy can be made. Add the entries under columns 2, 3, and 7; and this total must equal the entry for column 1. (Columns 2+3+7 = Column 1.)
- 2. Code 21 through 29 Occupational Illness Codes. Follow the procedure for paragraph 1. above for each illness code, entering the totals on the appropriate line of this form.
- Code 30 Total of Occupational Illnesses. Add the entries for codes 21 through 29 in each column, and enter totals on the line for code 30.
- Code 31 Total of Occupational Injuries and Illnesses. Add the entries for codes 10 and 30 in each column, and enter total on the line for code 31.
 - CHECK: If the summary has been made correctly, the entry in column 1 of the total line (code 31) of this form will equal the total number of cases on the log.
- 5. Code 40 Total Man-Hours Worked During This Reporting Period. For full-time military and civilian personnel, report man-hours worked, calculated as follows: Take the average actual personnel assigned and multiply by 500 to obtain total man-hours worked for the quarter. Include actual man-hours for part-time personnel. Where strength figures are classified, do not report, instead enter the word "Classified". (NOTE: If actual man-hours worked data is readily available, DoD Components may elect to use this data for civilian personnel. Actual man-hours worked includes overtime and excludes vacations, holidays and sick leave. The DoD Components implementing regulation shall specify the method selected.)

NOTE: Use 750 hours for ships, and units on field exercises or similar round-the-clock training activities.

- 6. Code 50 Number of Employees this Reporting Period. Use end of year strength figures for both military and civilian personnel. If strength figures are classified, do not report - instead, enter the word "Classified."
- 7. Code 51 Average Workweek. If the average workweek for all civilian personnel is less than 30 or more than 50 hours, enter an X. Same rules for military personnel.
- F. ASD(I&L) will submit a consolidated DoD OSHA Form 102F to the Secretary of Labor.

Attachment - 1 OSHA Form 102F OSHA NO. 102F

SUMMARY REPORT OF FEDERAL OCCUPATIONAL INJURIES AND ILLNESSES

	This is the separate summai A.1 Civilian Personnel — A.2 Military personnel		- [B. Re	port Period (Ending Date	Month	H_JLH Osv	Ų
		7				LOST WORK	DAY CASES		NONFATAL	TERMINA
	INJURY AND ILLNESS CATEGORY		TOTAL	DEATHS	Total Lost Workday Cases	Cases Involving Days Amey From Work	Days Away From Work	Days of Restricted Work Activity	CASES WITHOUT LOST WORKDAYS	PERMA- NENT TRANS- FERS
		_	Number of	Number of	Number of	Number of	Sum of	Sum of	Number of check; in	Number of
	CATEGORY	400 m	Col 7 of the log	Cal 8 of the log. (2)	Cal. 9 of the log. (3)	Col. 9A of the log. (4)	Col. SA of the log. (5)	Col. 98 of the Icg. (6)	Cal. 10 of the log (7)	Col. 11 of the log. (8)
0										
00	Occupational Skin Gisesses or Disorders	21								
2	Dust Dissess of the Lungs	22								
-	Respiratory Conditions Due to Taxic Agents	23								
102	Possoning (Systemic Effects of Toxic Materials)	24								
	Disorders Due to Physical Agents	25								
1 1	Dispiders Associated With Repeated Trauma	26								
L 2 E	All Other Occupational	29								
5 5 5	TOTAL-OCCUPATIONAL ILLNESSES (Sum of codes 21 through code 29)	30								
-	DTAL-OCCUPATIONAL JURIED AND ILLNESSES Jum of code 10 and code 30)	21								
	otal Man-hours worked y all employees	40							(Thu Repo	rting Period)
	verage number of	50							(This Repo	ring Period)
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INSTRUCTIONS FOR PREPARING OSHA FORM 102FF SUMMARY REPORT OF FEDERAL OCCUPATIONAL PROPERTY DAMAGE INCIDENTS

- A. Four copies of this report will be prepared by each Component and forwarded to the Assistant Secretary of Defense (Installations and Logistics) no later than 40 calendar days following the close of each calendar year.
- B. A reportable Federal occupational property damage incident is any mishap involving property damage as defined in enclosure 1. A summary of occupational property damage incidents that conform to this definition will be separated and entered under one of the categories listed below. Count the number of occurrences which fit into each category and record that total on the line designated by Code 8.0. In the guidance below, the definitions and categories of accidents set forth in enclosure 1, shall be used.

COLUMN

- 1.1 Government motor vehicle mishaps
- 1.2 Private motor vehicle mishaps (used for official business and reimbursable)
- 2.0 Cranes and lifts As defined in enclosure 1
- 3.0 Marine mishaps Includes all subcategories as defined in in enclosure 1
- 4.0 Flight mishaps (where intent for flight exists)
- 5.0 Incidents other than vehicles. This includes all ground mishaps (except fire), explosive/chemical agent mishaps, missile mishaps, and contractor mishaps.
- 6.0 Fire mishaps As defined in enclosure 1
- 7.0 Tort claims (dollar). A summary of all tort type claims paid as result of a DoD Components mishaps. It includes monies paid from the DoD Components, the Department of Justice, and Congressional funds. Report only those tort claims paid during this period, regardless of when the incident occurred. This data may be obtained from the Components' Judge Advocates General or Legal Counsel.
- 9.0 Vehicle usage:
- 9.1 Report only for Column 1.1
- 9.2 Report only for column 4.0
- 10.0 Enter dollar costs in columns 1.1 through 7.0
- C. When a property damage mishap involved property in more than one mishap category, report as one mishap under the column which best reflects the responsibility for the occurrence.

D. ASD(I&L) will submit consolidated DoD OSHA Form 102F to the Secretary of Labor.

Attachment - 1 OSHA Form 102FF

OSHA No. 102FF

SUMMARY REPORT OF FEDERAL OCCUPATIONAL PROPERTY DAMAGE INCIDENTS

Dod Component:

	1.0 Aut	1.0 Automobiles	2.0	(,	5.0		7.0
	1.1 Gov't	1.2 Private	Crares, Lifs. Etr.	3.0 Marine	Aircraft	Other Than Vehicles	Fire	Claims (Do'lars)
8.0 Total Incidents								
9.0 Vehicle Usage:		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1				
9.1—Total Miles Traveled				7 22				
9.2-Total Hours Operated	10000000000000000000000000000000000000		が観光					
10.0 Cost of Repair and/or								
Replacement - Direct Dollars								_

INSTRUCTIONS FOR PREPARING DOD CONSOLIDATED REPORT OF INJURIES OCCUPATIONAL ILLNESSES AND PROPERTY DAMAGE

- A. The reporting periods for this report are January 1 to June 30, and July 1 to December 31. Submit two copies to the Assistant Secretary of Defense (Installations and Logistics) not later than sixty days following the close of each reporting period.
- B. DoD Components may use the attached format or a computer printout to forward this data. If a printout is used, it must be in the same format.
- C. Specific instructions for completing the report are as follows:
 - Consolidated report of injuries and property damage (Attachment 1 to this enclosure)
 - a. Column 1 Category These are the mishap categories as defined in enclosure 1.
 - b. Column 2 Total Mishaps This should equal the sum of entries in column 3 for each mishap category.
 - c. Column 3 Severity Code Enter the number of mishaps in each severity class listed for each category of mishap.
 - d. Column 4A. Self-explanatory
 - e. Column 4B Severity Class A-B-C Injuries. Enter the total number of injuries for severity class A, B, and C mishaps (excluding fatalities) for each category of mishap.
 - f. Column 4C Non-DoD Injuries. Enter the number of non-DoD personnel killed or injured as a result of DoD operations.
 - g. Column 5A DoD Injury Cost. Enter the total cost of DoD fatalities and injuries for each category of mishap.
 - h. Column 5B Property Damage, Non-DoD. Enter the estimate cost for damage to non-DoD property resulting from DoD mishaps for each category of mishap.
 - Column 5C Property Damage, DoD. Enter the cost of damage to DoD property resulting from DoD mishaps for each category of mishap.
 - j. Column 5D Total Cost. Enter the sum of Columns 5A, 5B, and 5C for each category of DoD mishap.

- Consolidated report of occupational illnesses. (Attachment 2 to this enclosure.)
 - a. Column 1 Category These are the mishap categories as defined in enclosure 1.
 - b. Column 2 Total Mishaps. Enter the sum of entries in column 4 of each category of mishap.
 - c. Column 3 Self-explanatory.
 - d. Column 4A Fatalities. Self-explanatory.
 - e. Column 4B Lost Workday Cases. Enter the total number of lost workday cases (as defined in enclosure 1) for each category of mishap.
 - f. Column 4C Non Fatal Case Without Lost Workdays. Enter the total number of these cases (as defined in enclosure 1) for each category of mishap.
 - g. Column 5 Illness Codes. Enter the total number of each occupational illness, by OSHA Form 100F codes, for each category of mishap.
 - h. Column 6 Cost of illnesses. Enter the total cost of occupational illnesses for each category of mishap using cost table in enclosure 9.
- 3. Severity Class D Mishaps. Data for severity class D mishaps will be computed annually by ASD(I&L) from information reported on OSHA Forms 102F.

Attachments - 2

- 1. DoD Consolidated Report of Injuries and Property Damage
- 2. DoD Consolidated Report of Occupational Illnesses

Dod consolidated report of injuries and property damage

		7			A			U.N.I	INJURIES			78	URY AND P	INJURY AND PROPERTY DAMAGE COST	GE COST
	CATEGORY	TOTAL MISHAPS	35	VERIT	SEVERITY CODE	FATA	FATALITIES	SEVE CL.	SEVERITY CLASS A-B-C		NON-UOD INJURIES	000 INJURY COST	PROFE	TY DAMAGE 11,000k)	T01AL C0ST
			<	•	J	ii.	CIV	i i	CIV	FAT	FAT INJURIES	(\$1,000k)	NON DOD	000	(\$1,000)
	FLIGHT														
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	SUB TOTAL														
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	NOT UNDERWAY														
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	SUB TOTAL														
_	OPERATIONS TOTAL														
	VMY														
20	OTHER OFF DUTY														
siy	CONTRACTORS														
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L	COAND TOTAL														

Dod Consolidated report of occupational illnesses

•	_		OCCUPA	OCCUPATIONAL ILLNESS CASES	S CASES		•	ASES B	CASES BY ILLNESS CODES	3 CODE	•	•	
CATEGORY	TOTAL		FATALITIES	LOST WORKDAY CASES	NON-FATAL 4C CASES WITHOUT LOST WORKDAYS	~	æ	8	*	22	2	82	COST OF ILLWESSES
FLIGHT		E E											
AIRCRAFT .		CIV											
WIT DELATED		MIL											
CLI MELAIED		CIV											
MARINE		MIL											
UNDEHWAY		CIV											
WAT HADEDWAY		MIL											
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SPECIAL REPORTING OF SERIOUS MISHAPS

- A. The requirements of this enclosure are not intended to modify the Joint Chiefs of Staff, Joint Reporting Structure (OPREP) Volume II, Part 2, Operational Status Reports, May 1974.
- B. DoD Components will establish procedures for reporting serious mishaps to the Director for Safety and Occupational Health Policy, OASD(I&L) Environment and Safety, within 2 workdays of their occurrence. This may be accomplished by telephone or message. This requirement includes those onduty mishaps which result in one or more of the following:
 - 1. Fatal injuries to one or more DoD or non-DoD personnel.
 - 2. Hospitalization of five or more DoD personnel, or a combination of DoD and non-DoD personnel.
 - 3. Property Damage of \$200,000 or more.
- C. The report will include:
 - 1. Date and local time of mishap.
 - 2. Location.
 - 3. Extent of injuries and property damage.
 - 4. Narrative report of the circumstances of the mishap.
 - Any action(s) taken by the DoD Component as a result of the mishap.
- D. The OASD(I&L) will forward to the Secretary of Labor serious mishap reports which are applicable to the requirements of 29 CFR 1960 (reference (h)).
- E. The Secretary of Labor may require additional information concerning certain mishaps. Requests for additional information will be handled by OASD(I&L) giving due consideration to the provisions of DoD Directive 5400.7 (reference (i)).
- F. Serious mishaps reported under explosive/chemical agent mishaps (enclosure 2-6) need not be reported to the Director for Safety and Occupational Health Policy, OASD(I&L).

1000.19 (Encl 7) Nov 18, 76

INSTRUCTIONS FOR PREPARING REPORT OF APPLICABLE WORKPLACE MISHAPS

- A. The DoD consolidated report of injuries, occupational illness and property damage has been designed so that the "Ground, Other" category of mishap experience is generally relatable to the private sector workplace. This report has been designed to:
 - Gather data concerning mishaps in applicable DoD occupational areas that relate to groupings of occupational safety and health standards.
 - 2. Serve as the basis for Component analysis efforts in this area.
- B. On a semiannual basis each DoD Component will provide the statistical data outlined below and prepare a narrative report to ASD(I&L) which will analyze significant problem areas within appropriate workplaces as listed on the form. The problem areas selected may be based on the numbers of mishaps reported; sharply improved or adverse trends; or emergence of new and potentially significant problems. The analysis should (1) identify those Department of Labor causal factors, hardware and human, (as defined in enclosure 1) that have contributed to the problem, and (2) cite any planned corrective actions. Subsequent reports will contain comments on the results achieved. The analysis will also include as much information as possible concerning the effectiveness of the applicable occupational safety and health standards.
- C. Components will forward the statistical data using the enclosed guide or a computer printout. If a printout is used it must be in the same format as the guide.
- D. For each of the nine classes of workplaces listed, enter the combined total number of fatalities and severity classes A, B, and C injuries and occupational illnesses under the most appropriate mishap element. NOTE: Injuries are entered only under columns A through T and occupational illnesses are entered only under column U.
- E. The following definitions apply for purposes of this report:
 - Mishap Element Those things or events most directly involved in the mishap. They are arranged generally by OSHA standard categories.

COLUMN

- A Working, Walking, or Vehicular Driving Surface.
 Ramp, aisle, walkway, vehicle way, road, or any surface where employees work or walk.
- B Building or Structure. Permanent part of a building. Examples: window, door, wall, roof, stairs, elevator, etc.

COLUMN

- C Furniture or Fixture. Rack, bin, shelf, cabinet, closet, desk, table, chair, etc.
- D <u>Conveyor and/or Conveying Equipment</u>. Endless belt, dumbwaiter, screw, etc.
- E Crane, Hoist or Derrick. As defined in enclosure 1.
- F Special Purpose Vehicles. Forklift, straddle carrier, earth mover, tractor, etc.
- G Non-Powered Industrial Vehicles. Push cart, dolly, hand truck, etc.
- H Pressurized Container. Boiler, pressurized tank, pipe, hose, cylinder, compressor tank, etc.
- I <u>Non-Pressurized Container</u>. Tank, vat, box, bag, or any other container for liquids or solids which is not pressurized.
- J Production-Related Equipment or Machinery. Shaper, lathe, drill press, table saw, jointer, packaging machine, printing machine, cooking or baking equipment, milling machines, etc.
- K Powered Hand Tools. Drill, impact tool, saber saw, grinder, etc.
- L <u>Manual Hand Tools</u>. Screwdriver, wrench, hammer, saw chisel, cutter, knife, etc.
- M <u>Personnel Supporting Device</u>. Scaffolding, catwalk, sling chair, ladder, platform, or any other device used to support personnel for working purposes, including powered platforms.
- N <u>Hazardous Material</u>. Contact with acids, caustics, or other hazardous materials.
- 0 Fire. Contact with fire.
- P <u>Electrical Work</u>. Contact with electrical current while doing electrical work.
- Q <u>Electrical Equipment</u>. Contact with electrical current while using electrically powered equipment.
- R Material, Supply, or Equipment, Manually Handled. Injuries which occurred from manually lifting, carrying, or pulling boxes, packages, containers, equipment, etc.
- S <u>Hot Work</u>. Injuries resulting from welding, cutting, or brazing operations.

COLUMN

- T Other. Injuries that do not fit any of the above listed mishap elements.
- U Occupational Illnesses. Listed by illness codes as contained in enclosure 2.
- Workplaces. Those principal areas of DoD operations that are comparable to private sector workplaces, where DoD mishaps may occur.

ROW

- 1 Vessel Repair Facilities. All facilities devoted to the repair or modification of vessels, e.g., shipyards, service-craft repair facilities, etc.
- 2 Aircraft Maintenance and Repair Facilities. All operations and facilities devoted to aircraft maintenance and repair, e.g., rework facilities, hangars, flightline operations.
- 3 <u>Construction</u>. The construction of buildings, bridges, dams, locks, roads, etc.
- 4 <u>Vehicle Maintenance and Repair</u>. The servicing and repair of all types of motor vehicles.
- 5 <u>Supply Services</u>. The storage, packaging and handling of supplies, including petroleum products, up to the final distribution point and retail sales. (Excludes cargo mishaps categorized under flight, marine or GMV).
- 6 Real Property Maintenance Activities. All activities associated with the upkeep of DoD installations, e.g., painting, capentry, plumbing, ground maintenance (Army/Air Force Civil Engineer, Navy Public Works)
- 7 Other Industrial Activities. Other workplaces not listed above, such as arsenals, RDT&E activities and industrial laboratories.
- 8 Medical Facilities. All medical centers, hospitals, dispensaries and medical research laboratories.
- 9 Office Work.

F. The reporting periods for this report are January 1 to June 30, and July 1 to December 31. Submit two copies to the Assistant Secretary of Defense (Installations and Logistics) no later than 60 days following the close of each reporting period.

Attachment - 1 Applicable Workplace Mishap Data

Applicable Workplace Mishap Duta.

Report Period Ending

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1	Other
S	Hot Work
~	Material Handling
a	Electric Equipment
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۵,	Electrical Work
0	Fire
z	Hazardous Maicrial
Z	Personnel Supporting Dev.
4	stooT basii isuasM
¥	Powered Hand Tools
7	Production Equipment
-	Non-Pressurized Container
I	Pressurized Container
O	Non/Powered Ind. Vehicle
4	Spec/Purpose Vehicle
ы	Cranes
Q	Conveyor
U	Furniture.
B	Bldg/Structure
<	Work Surface

6 Z

1. Vessul Repair Facilities

WORKPLACES

Aircraft Maintenance and Repair facilities

3. Construction

Vehicle Maintenance

i. Supply Service

6. Real Property Maintenance

7. Other Industrial Areas

8. Medical Facilities

9. Office Work

SPECIAL INSTRUCTIONS FOR REPORTING SELECTED EXPLOSIVE/CHEMICAL AGENT MISHAPS TO THE DOD EXPLOSIVES SAFETY BOARD

- A. In order to provide the information for the Department of Defense Explosives Safety Board (DDESB) to assess the effectiveness of current safety procedures and standards, and to develop additional safety standards, the details of certain explosives/chemical agent mishaps must be reported to the DDESB.
- B. There are two categories/levels of mishaps which must be reported to the DDESB.
 - 1. Explosives/chemical agent mishaps that result in one or more of the following:
 - A fatality or lost workday case (involving days away from work) to DoD or non-DoD personnel;
 - b. \$200,000 or more property damage;
 - c. Production interruption which did or will exceed 72 hours;
 - d. Significantly degraded operational capability;
 - e. Probable high public interest.
 - Explosives/chemicals agent mishaps that result in one or more of the following:
 - a. \$10,000 or more property damage;
 - b. Production interruption exceeding 24 hours;
 - Individuals exhibiting physiological symptions of agent exposure;
 - d. An unintentional or uncontrolled release of a chemical agent where the agent quantity released to the atmosphere is such that a serious potential from exposure is created by exceeding the applicable maximum allowable agent concentration-time levels for exposure of unprotected workers or the general population.
- C. The following mishaps, although not required to be reported under this enclosure should be reported whenever the information to be obtained can contribute to the development or verification of safety procedures or standards:
 - 1. A nuclear weapon accident or nuclear weapon significant incident shall be reported in accordance with DoD Instruction 7730.12

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(reference (d)). However, the investigation resulting from an accident that involve the non-nuclear explosive components of such a weapon or device should be provided to the Chairman, DDESB, to aid in the development or verification of high explosive safety procedures and standards.

- 2. An unplanned explosion, fire, or functioning of ammunition and explosives that does not meet the requirements of B.1 or 2. for mandatory reporting when, in the opinion of the investigating officer, it produces data which may be of permanent value in evaluating explosives or chemical agent safety.
- 3. An accident relating to the employment of ammunition, explosives, or chemical agents during combat.
- 4. Explosive damage or injuries caused by action of an enemy force.
- D. The procedures for reporting the mishaps described in B. and C., above, are contained in Chapter 9, DoD 5154.4S, DoD Ammunition and Explosives Safety Standards, March 1976, (reference (f)). Essentially, these procedures require:
 - 1. An initial telephone report within three hours after receipt of notification, concerning mishaps that meet the criteria of B.l., above. A follow up electrically transmitted message with any additional information will be submitted within two work days.
 - 2. An electrically transmitted message, within three workdays after receipt of notification, concerning mishaps that meet the criteria of B.2., above.
 - 3. A mishap report, submitted to the DDESB as soon as possible, but no later than 6 months after the occurrence of mishaps that meet the criteria of B.1 or 2., above. Mishaps occurring during the transportation of ammunition, explosives, or chemical agents by commercial carriers are excluded from this reporting requirement, unless appropriate contractual obligations have been established.
- E. Each DoD Component shall designate a central office to be responsible to the DDESB for these reporting requirements.

TABLE FOR COMPUTING COSTS OF INJURIES AND OCCUPATIONAL ILLNESS OF DOD PERSONNEL

- A. The attached table provides standardized average figures for use in computing injury/occupational illness costs for DoD reporting purposes. These criterion will be periodically adjusted by ASD(I&L) to reflect changing economic conditions. The figures include the costs of:
 - 1. Pay while away from work
 - 2. Medical treatment
 - 3. Hospitalization
 - 4. Dependent survival
 - 5. Unused training costs
 - 6. Gratuities
 - 7. Compensation
 - 8. Disability Retirement
 - 9. Burial
- B. In using the attached table the following special definitions apply:
 - 1. Fatal Injury or Occupational Illness. One that results in death from a mishap or the complications arising from a mishap therefrom; regardless of the length of time intervening between the mishap and a subsequent death.
 - Permanent Total Disability. Any nonfatal injury or occupational illness that in the opinion of competent medical authority, permanently and totally incapacitates a person to the extent that he or she cannot follow any gainful occupation.

NOTE: The loss, or the loss of use of both hands, both feet, both eyes, or a combination of any of these body parts as a result of a single mishap will be considered as a permanent total disability.

- 3. Permanent Partial Disability. An injury or occupational illness that does not result in death or permanent total disability but, in the opinion of competent medical authority, results in the loss or permanent impairment of any part of the body, with the following exceptions:
 - a. Teeth

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- b. Toes, other than a great toe
- c. Distal phalanx of any fingers (excluding the thumbs)
- d. Distal two phalanges of the little finger
- e. Hernias (with the exception of an inguinal hernia that cannot be repaired)
- f. Hair, skin, nails, or any subcutaneous tissue, unless from such locations or in such amounts as to produce permanent disfigurement or loss of function.
- 4. Lost Workday Case Involving Days Away from Work. An injury or occupational illness that does not result in death or permanent disability but which results in a lost workday case involving days away from work.
- 5. Injuries Greater than First Aid but Not Involving Days Away from Work. An injury or occupational illness that does not result in death, permanent disability, or days away from work, but that results in a lost workday case involving days of restricted work activity or a nonfatal case without lost workdays.

NOTE: Add these costs in those cases where individuals have lost work days and returned to work but have additional days of restricted work activity as defined in enclosure 1.

Attachment - 1 Cost Table COST TABLE

	Submarine/Flying Officer	Other Officers	Enlisted Personnel	Civilian Employees	Youth/Student Assistance Program Employees and Foreign Nationals
Facality	\$ 200,000	\$ 100,000	\$ 100,000 \$ 30,000 $\frac{1}{2}$ / 65,000 $\frac{2}{2}$ /	\$ 100,000	\$ 70,000
Permanent Total Disability $\frac{3}{2}$	300,000	200,000	120,000	000,06	100,000
Permanent Partial Disability $\frac{3}{2}$	20,000	35,000	25,000	000,09	45,000
Lost Workday Case - Days Away from Work	110/day	110/day	75/day	50/day	40/day
Injuries Greater than First Aid but not Involving Days Away from Work	30/day	30/day	20/day	30/day	25/day

Ground accident fatality and non-flight crew member fatality

 2 Crew member flight mishap fatality

3 Total costs, including days away from work

II. CANCELLATION

References (a), (b) and (e), Report Control Symbols DD-M(Q) 1021, DD-M(Q) 1173 and DD Form 1739 are hereby superseded and cancelled.

III. APPLICABILITY AND SCOPE

- A. The provisions of this Instruction apply to the Office of the Secretary of Defense, the Military Departments, the Organization of the Joint Chiefs of Staff, and the Defense Agencies (hereinafter referred to collectively as "DoD Components"). For the purposes of this Instruction the Army-Air Force Exchange Service and the Uniformed Services University of Health Services are considered DoD Components.
- B. Its provisions are not intended to modify DoD Instruction 7730.12 (reference (d)), or JCS OPREP reporting under reference (j).

IV. DEFINITIONS

For purposes of this Instruction, the definitions shown in enclosure 1 apply.

V. POLICY

DoD Components will collect, maintain, analyze and report standardized property damage, injury, and occupational illness data as set forth herein to assess total mishap losses; to assist the Secretary of Defense to evaluate the safety and occupational health programs prescribed in DoD Directive 1000.3 (reference (c)); and to evaluate and develop explosive safety standards prescribed in DoD Standard 5154.4S (reference (f)).

VI. GUIDANCE AND PROCEDURES

- A. General. DoD Components will adopt the mishap categories, classification criteria, and reporting formats and procedures contained in this Instruction. This does not inhibit DoD Components from collecting, classifying and maintaining additional data for their individual accident prevention programs.
- B. Reporting and Record Keeping. Minimum reporting and record-keeping requirements for DoD mishaps follow.

1. Mishap Investigation Reports

a. General

(1) The proximate result of any mishap investigation is a document which provides the essential details

of the mishap. This may be a simple form that records the minimum detail of the mishap, or it may be a complete record which includes photographs, drawings and map overlays; a narrative description of the occurrence, the resulting injuries, occupational illness, or property damage; statements of witnesses; findings; conclusions; recommendations; and a summary of corrective actions taken or anticipated.

- (2) Each DoD Component will establish procedures to ensure that all mishaps are investigated, and that the essential data are recorded. The depth of each investigation and its associated report is based on the severity or significance of the mishap. As a minimum, mishap reports involving occupational injuries and illnesses will include the information required in OSHA Form 101F or Employee Compensation Form CA-1 or CA-2.
- (3) This minimum provision is, in most cases, sufficient for severity class D mishaps. DoD components shall, however, ensure thorough investigations of mishaps that have serious potential, regardless of the severity classification.
- (4) The DoD Components should also provide for review of mishap reports by appropriate levels of management, based on mishap severity, and establish a system to insure that corrective actions, validated and approved by competent authority, are carried out.

b. Types of Mishap Investigation Reports

When a mishap occurs, there may be several reasons for recording data relating to the mishap. The two most important reasons are for future mishap prevention and for legal considerations. These separate objectives may require separate reports; that is, in certain cases a legal investigation report may be required, or advisable, in addition to a report developed primarily for mishap prevention. Descriptions of these types of reports and their relationship to each other are explained below:

(1) Limited Use Mishap Investigation Reports. These are internal communications of the DoD whose sole purpose is prevention of subsequent DoD mishaps. They are required for use in all flight mishaps and are authorized for use in certain other mishaps as explained below. The purpose of this special category of investigative reports is to make certain that all available information is obtained and analyzed. Since much of this information will be possessed by persons directly or indirectly involved in the mishaps, a means must be provided to establish frank and open exchange of such information without fear of recrimination or other adverse action. To this end, a promise of confidentiality is given to all persons who provide information to mishap investigators. To ensure protection of this confidentiality, exemption from release will be claimed upon a request

for disclosure under the Freedom of Information Act (reference (i)) for all Limited Use Mishap Reports.

- (2) In addition to Flight Mishaps, Limited Use Mishap Reports may be used also for mishaps involving advanced or complex weapon systems, e.g., guided missiles, nuclear weapons, explosive weapons, etc; when the determination of causal factors is vital to the national defense. The selection of weapon system categories to be included in this application of Limited Use Mishap Investigation Reports is delegated to the components, and will be prescribed in the components' implementing Directives.
- (3) The following restrictions are imposed on the handling of Limited Use Mishap Reports:
 - (a) These reports will not be used as evidence for disciplinary action; as evidence in determining the misconduct or line-of-duty status of any personnel; as evidence before any evaluation board; as evidence to determine liability in claims for or against the government.
 - (b) These reports will not be released in their entirety, to the public, or any federal agency outside the Department of Defense, including the Department of Justice, any U.S. Attorney, or in any legal proceeding, civil or criminal, except as stated in (c) below.
 - (c) Notwithstanding the restrictions on the use and release of these reports in their entirety, a summary of the purely factual material including date, time, location, type system, weather, etc., and attachments such as photographs, examination of wreckage, maps, transcripts of air traffic communications, etc., may be released as required by law or pursuant to court order; or upon specific authorization of the component's designated disclosure authority. To facilitate the release of factual material, when required, the components should structure these reports so that the factual material is easily identifiable and separately retrievable.
 - (d) The notation "Limited Use Mishap Report" will be used by all DoD components for the identification of these reports.
- (4) General Use Mishap Investigation Reports. This term describes reports prepared to record the data concerning all reportable DoD mishaps not covered by Limited Use Mishap Reports. Although these reports are intended primarily for mishap prevention purposes, they may be used, when necessary for administrative, disciplinary, or liability determinations as prescribed in each component's implementing directive. Promises of confidentiality in taking statements or in other investigative processess will not be accorded.

- (5) Legal Mishap Investigation Report: This term describes reports of investigations conducted under procedures prescribed by the components' Judge Advocates General, legal counsel or other authority. Although factual information acquired by a mishap investigator should be made available to the legal investigation, the latter is conducted independently and apart from other types of mishap investigations. Legal mishap investigation reports are used to obtain and preserve all available evidence for use in litigation, claims, disciplinary action or adverse administrative actions. As a minimum, DoD components should prepare this type of investigation report, in addition to any authorized Limited Use Mishap Report, whenever a mishap involves one or more of the following:
 - (a) Fatality.
 - (b) Probable litigation against the government or a government contractor.
 - (c) Probable high public interest.
- 2. Log of Federal Occupational Injuries and Illnesses (OSHA)
 No. 100F). The requirements and instructions for this log are contained in enclosure 2.
- 3. Annual Summary Report of Federal Occupational Injuries and Illnesses (OSHA No. 102F) and Federal Occupational Property Damage Incidents (OSHA No. 102FF). The requirements and instructions for these reports are contained in enclosures 3 and 4.
- 4. DoD Consolidated Report of Injuries, Occupational Illnesses, and Property Damage. The requirements and instructions for this report are contained in enclosure 5.
- Special Reporting of Serious Mishaps. The requirements and instructions for these reports are contained in enclosure 6.
- 6. Report of Applicable Workplace Mishaps. The requirements and instructions for this report are contained in enclosure 7.
- 7. Special Reporting of Selected Explosive/Chemical Agent Mishaps to the Department of Defense Explosives Safety Board. The requirements and instructions for these reports are contained in enclosure 8.
- C. Reportable Mishaps. All DoD mishaps resulting in over \$250 property damage, or injury or occupational illness requiring treatment greater

than first aid, are reportable under this instruction with the following exceptions:

- Mishaps involving nuclear weapons or reactors, or radioactive materials involved in these systems. These are reportable in accordance with provisions of DoD Instruction 7730.12 (reference (d)). (Note, however, that other radiation mishaps are reportable.)
- 2. Damage or injury by direct action of an enemy or hostile force.
- 3. Intentional controlled jettison or release, during flight, of canopies, doors, drag chutes, hatches, life rafts, auxiliary fuel tanks, missiles, drones, rockets, non-nuclear munitions, and externally carried equipment not essential to flight, when there is no injury, no reportable damage to the aircraft or other property, and, in the case of missiles, drones or non-nuclear munitions, the reason for jettison is not their malfunction.
- 4. Malfunction or failure of component parts that are normally subject to fair wear and tear and have a fixed useful life less than the complete weapon system or unit of equipment, provided (a) the malfunction or failure is the only damage, and (b) the sole action is to replace or repair that component part. When the malfunction or failure of a component part results in damage to another component this exception does not apply; e.g., the failure of a jet engine turbine which results in damage to the aircraft fuselage; a blown aircraft tire which results in damage to the wheel well or aircraft structure.
- 5. Injuries associated with nonoccupational diseases, where the disease itself, not the injury, is the proximate cause of the lost time; e.g., a minor laceration suffered by a hemophiliac which results in time away from work.
- Attempted or consummated suicide or homicide, or intentionally selfinflicted injuries.
- 7. Injuries resulting from altercations, attack or assault, unless incurred in the performance of official duties where an attack or assault would not be a felony. (e.g., A nurse assaulted by a patient in a mental institution).
- 8. Injuries sustained before entry into service, or employment, unless specifically aggravated by current tenure of service.
- Hospitalization for treatment where the patient is retained beyond the day of admission solely for administrative reasons.
- 10. Hospitalization for observation or administrative reasons not related to the immediate injury or occupational illness.
- 11. Injuries that result from (a) pre-existing musculoskeletal disorders

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- or (b) by minimum stress and strain (simple, natural, nonviolent body positions or actions as in dressing, sleeping, coughing, or sneezing). These are injuries unrelated to accident-producing agents or environments normally associated with active participation in daily work or recreation.
- 12. Injuries or fatalities to persons in the act of escaping from or eluding military or civilian custody or arrest.
- Death, due to natural causes, that are unrelated to the work environment.
- 14. Intentional or expected damage to DoD equipment or property incurred during authorized testing or combat training, including missile and ordnance firing.
- Foreign object damage (FOD) to aircraft, air-breathing missiles, or drone engines, discovered during scheduled engine disassembly.
- 16. Property damage as a result of vandalism, riots, civil disorders or felony acts such as arson.
- D. Contractor Mishaps. Each DoD Component will develop procedures to ensure that mishaps which occur as a result of a Government contractor's operations in which there is damage to DoD property or equipment (GFP/GFE), or injury/occupational illness to DoD personnel, are investigated and recorded. Each DoD Component shall determine if such investigations are to be made by contractor or DoD personnel. Regardless of who conducts the investigation, a record of the mishap will be included in the Component's mishap review, recordkeeping, and statistical reporting system.

E. Cost Data.

- 1. The standardized Cost Data contained in the tables in enclosure 9 will be used to compute the cost of injuries and occupational illness of DoD personnel reported in this instruction. In those cases where the actual time lost is not known when a report is submitted, the best official estimate of lost workdays will be used in computing the cost of the injury/occupational illness.
- 2. Costs of damage to DoD property and equipment will be computed utilizing the actual cost of repair or replacement, including manhours to repair, or the best official estimate available.
- A standard rate of \$8 per man hour will be used for labor cost computations.
- 4. In the case of destroyed aircraft, the cost used will be in accordance with components' current aircraft cost tables, based on flyaway plus modification costs.

- 5. When an aircraft engine is damaged to the extent that it must be returned to a depot for overhaul, the cost of such damage will be computed as 17 percent of the unit cost.
- F. <u>Duplicate Reporting</u>. To avoid duplicate reporting in the case of DoD Component personnel regularly assigned to another Defense Agency or the Office of the Secretary of Defense/Organization of the Joint Chiefs of Staff, injuries and occupational illnesses will be reported by the organizations of assignments, rather than the parent DoD Component.
- G. Access to Records. DoD Components will develop procedures to provide access to the records prescribed herein, as follows:
 - Procedures addressing the release of information contained in mishap and legal investigation reports will be developed in accordance with DoD Directive 5400.7 (reference (i)) and paragraph VI. B. of this instruction, which in part provide for release of factual portions of all mishap reports. These release procedures will apply equally to all private citizens, including injured parties and representatives of injured parties.
 - 2. OSHA Forms 102F, "Summary Report of Federal Occupational Injuries and Illness," will be prepared and posted annually at each installation. Separate forms for military and civilian personnel shall be posted in a conspicuous place(s), no later than 45 days after the close of the calendar year, and left in place for at least 30 days.
 - 3. Ensure the availability of other records maintained under this Instruction to DoD personnel, and with the permission of DoD personnel involved, to representatives of DoD civilian employees. This procedure shall be in accordance with other pertinent statutes, regulations and instructions, and any applicable collective bargaining agreements.
 - 4. Ensure that records required to be maintained by this Instruction are retained at a reasonably accessible location, including a Federal Record Retention Center, for at least five years following the end of the calendar year to which they relate.

VII. INFORMATION REQUIREMENTS

The reporting and recordkeeping requirements of this Instruction have been assigned the following Interagency and Internal Report Control Symbols:

A. Interagency Report Control Symbol 1146-DOL-xx has been assigned to paragraphs VI.B.1., 2., 3., and 5.

- B. Report Control Symbol DD-I&L(SA) 1446 has been assigned to paragraph VI.B.4. and subsection VI.D.
- C. Report Control Symbol DD-I&L(SA) 1447 has been assigned to paragraph VI.B.6.
- D. Report Control Symbol DD-I&L(AR)1020 has been assigned to paragraph VI.B.7.

VIII. EFFECTIVE DATE AND IMPLEMENTATION

This Instruction is effective January 1, 1977. Initial reports prescribed in enclosures 5 and 7 will be submitted to ASD(I&L) no later than August 31, 1977. Initial OSHA reports prescribed in enclosure 3 will be submitted not later than February 9, 1978.

FRANK A. SHRONTZ
Assistant Secretary of Defense
(Installations and Logistics)

Enclosures - 9

- 1. Definition
- Instructions for Preparing OSHA Form 100F
- Instructions for Preparing OSHA Form 102F
- Instructions for Preparing OSHA Form 102FF
- Instructions for Preparing DoD Consolidated Report of Injuries, Occupational Illnesses, and Property Damage
- Special Reporting of Serious Mishaps
- 7. Instructions for Preparing Report of Applicable Workplace Mishaps
- 8. Special Instructions for Reporting Selected Explosive/Chemical Agent Mishaps
- 9. Table for Computing Costs of Injuries and Occupational IIInesses of DoD Personnel

DEFINITIONS

- A. <u>DoD Mishap</u>. An unplanned event, or series of events, which results in: damage to DoD property or equipment; injury to DoD military personnel, on or off duty; injury to on duty civilian personnel; damage to public/private property or injury to non-DoD personnel as a result of DoD operations.
- B. Property Damage. Damage to facilities, equipment, or material where the total cost to repair or replace is at least \$250. The \$250, criterion will be adjusted periodically by ASD(I&L) to reflect changing economic conditions.
- C. <u>Injury</u>. Traumatic bodily harm, such as a cut, fracture, or amputation, incurred in a Dob mishap and resulting in any of the following:
 - 1. Fatality, regardless of the time between injury and death.
 - 2. A lost work day case (as defined below).
 - 3. A nonfatal case without lost work days (as defined below).
- D. Occupational Illness. Any abnormal condition or disorder, other than one resulting from an injury (as defined above) caused by exposure to environmental factors associated with the occupational environment and resulting in any of the following:
 - 1. Fatality, regardless of the length of the illness.
 - 2. A lost work day case (as defined below).
 - 3. A nonfatal case without lost work days (as defined below).
- E. Lost Work Day Case.
 - 1. Cases Involving Days Away From Work. Cases in which a mishap results in Dob personnel missing 1 or more days of work. Days away from work are those work days (consecutive or not) on which Dob personnel would have worked but could not because of injury or occupational illness. Excluded are days that Dob personnel would not have worked even though able to work, and the day of the injury or onset of occupational illness.
 - 2. Cases Involving Pays of Restricted Work Activity. Cases in which Dob personnel may not have lost a day of work but because of an injury or occupational illness:
 - a. Were assigned to another job on a temporary basis, or
 - b. Worked at a permanent job less than full time, or

- c. Worked at a permanently assigned job but could not perform all duties normally connected with it.
- F. Non-Fatal Cases Without Lost Work Days. Cases, other than lost work day cases, in which DoD personnel, because of an injury or occupational illness:
 - 1. Were permantently transferred to another job or terminated, or
 - Required medical treatment greater than first aid (as defined below), or
 - 3. Lost consiousness, or
 - Were diagnosed as having an occupational illness that did not result in a fatality or lost work day case.

NOTE: Although the Department of Labor (DOL) includes a "restriction of work or motion" in this sub-category, DoD Components should not record such cases unless the restriction is severe enough to fit the "lost work day case involving days of restricted work activity" category. These latter mishaps will be recorded as lost work day cases.

- G. First Aid. Any one-time treatment, and any followup visit for the purpose of observation, of minor scratches, cuts, burns, splinters and so forth, which do not ordinarily require medical care. Such one-time treatment, and followup visit for observation, is considered first aid, even though provided by a physician or registered professional personnel.
- H. Observation/Diagnostic Procedure. Hospitalization or restriction from assigned work activities for observation or diagnosis is not a lost work day case or a nonfatal case without lost work days, provided no treatment or medication is given for the suspected injury or occupational illness, and competent medical authority determines the individual could have returned to his normal job without impairment or disability. This classification applies also where an individual is temporarily restricted from regularly assigned duties to preclude exceeding time weighted exposure limits.
- I. Mishap Severity Classification. DoD mishaps are classified according to the severity of resulting injury, occupational illness, and/or damage. Severity is generally expressed in terms of cost. In the case of injury/illness this is used solely to provide a single, simple method of standardized classification, since severity of injury is generally proportional to cost. Costs are calculated as the sum of the costs associated with injuries, occupational illness, DoD property damage, and non-DoD property that is damaged in a DoD mishap. Additionally, if injury or occupational illness results, an event is reportable even if the associated costs are less than the minimum

dollar criterion. Classify DoD mishaps as follows:

- 1. Class A Mishap: A mishap in which the resulting total cost of property damage, injury/illness is \$200,000 or greater; or a Dob aircraft is destroyed; or a fatality occurs as a result of Dob operations.
- Class B Mishap: A mishap in which the resulting total cost of property damage, injury/illness is \$10,000 or more, but less than \$200,000.
- 3. Class C Mishap: A mishap in which the resulting total cost of property damage is \$250 or more but less than \$10,000; or an injury or occupational illness resulted in a lost work day case involving days away from work.
- 4. Class D Mishap: A mishap in which the resulting total cost of property damage is less than \$250; but an injury or occupational illness resulted in a lost work day case involving days of restricted work activity or a non-fatal case without lost work days.

J. DoD Personnel. Either civilian or military:

- Civilian On Duty. General Schedule and Wage Grade employees (including National Guard and Reserve Technicians, unless in military duty status); nonappropriated fund employees (excluding part-time military); Corps of Engineers Civil Works employees; Youth/Student Assistance Program employees; Foreign Nationals employed by DoD Components; and Army Air Force exchange employees.
- 2. Military. All U.S. military personnel on active duty; U.S. Military Reserve or National Guard personnel on active duty or in drill status; Service Academy cadets; Reserve Officer Training Corps cadets when engaged in directed training activities; Foreign National military personnel assigned to DoD Components.
- K. Non-DoD Personnel. Off duty DoD civilian personnel; persons employed by other Federal agencies; other civilians and foreign nationals not employed by DoD.
- L. <u>Duty Status Determination</u>. These definitions are for mishap-reporting purposes only and have no relation to compensability or line-of-duty determination.

1. On Duty. When DoD personnel are:

a. Physically present at any location where they are to perform their officially assigned work. (This includes those activities incident to normal work activities that occur on DoD

installations, e.g., lunch/coffee breaks, etc., and all activities aboard vessels.)

- b. Being transported by DoD or commercial conveyance for the purpose of performing officially assigned work. (This includes reimbursable travel for temporary duty performed in private motor vehicles, but not routine travel to and from work.)
- c. Participating in compulsory sports/physical training activities.
- Off Duty. Not in an onduty status, whether on or off DoD installations absore.

M. DoD Aircraft.

- All manned weight-carrying devices supported in flight by bouyancy or dynamic action and owned by DoD Components (including Reserve Forces and National Guard) that are:
 - a. Operated and exclusively controlled or directed by a DoD Component,
 - b. Furnished by the government (GFP), or on bailment, to a non-DoD organization for modification, maintenance, repair, test, contract training, or experimental project for a DoD component, when the government has assumed ground and flight risk.
 - c. Under test by a DoD Component. (This includes aircraft furnished by a contractor when operated by a DoD Aircrew.)

2. Does not include aircraft that are:

- a. Leased or loaned (except as specified above) to contractors, commercial airlines, other Government agencies, or foreign governments when the Lessee has assumed risk of loss. (See DoD Instruction 7230.8 (reference (k)).)
- b. Civil air carrier aircraft owned by civil operators and accomplishing contract air missions for the DoD Components.
- Factory new production aircraft, not formally accepted by the DoD Component. (See instructions for contractor accidents.)
- flying club aircraft or privatelyowned aircraft hangared on DoD installations.

- N. Intent to Fly. Exists when an aircraft engine is started for the purpose of commencing authorized flight. Intent to fly continues until the aircraft comes to rest with the engine(s), propeller(s), or rotor(s) stopped and brakes set or wheel chocks in place. An aircraft's engines are considered started or running the instant an attempt is made to set any one engine in motion, either by power from within or outside the aircraft. For amphibian aircraft, landing on water, intent for flight ceases when the aircraft has made a water landing, engine(s) have been stopped, and the aircraft has either been moored or taken in tow. (NOTE: Helicopters designed with hulls capable of landing on water and remaining afloat are not considered to be amphibian aircraft.)
- O. Flight Mishap. A mishap involving DoD aircraft when intent to fly exists.
 - 1. Aircraft Mishap. Those flight mishaps in which there is damage to the aircraft itself. (NOTE: Explosives, chemical agent, or missile events that cause damage to a DoD aircraft with intent to fly are categorized as aircraft mishaps to avoid dual reporting. However, the provisions of enclosure 8 apply for flight mishaps involving explosives or chemical agents.)
 - 2. Flight Related Mishap. Those flight mishaps in which there is no damage to the aircraft itself. (e.g., injury to ground crew or passengers, other property damage)
- P. Marine Mishap. Except as noted below, any DoD mishap that occurs to, or on board, or as the result of the operation of a DoD combat vessel or service craft, or that involves DoD diving or swimmer operations.
 - 1. The term includes mishaps occurring while loading/off loading or receiving services at dockside, aviation ground mishaps occurring on board, and mishaps occurring up to the high water mark during amphibious or inshore warfare training operations. It applies also to all injuries to DoD personnel occurring on board, whether or not job-related.
 - 2. The term does not include mishaps that are reportable under other major categories prescribed in this Instruction, e.g., flight, missile, explosive/chemical agent; nor to injuries to assigned personnel that occur away from the vessel, whether or not job-related. Mishaps occurring on board that result from private contractor operations are not marine mishaps. They are categorized as contractor mishaps if reportable injury or damage to DoD personnel or property occurs.
- Q. Explosives/Chemical Agents.
 - 1. Explosives. All items of ammunition; propellants, liquid and solid; high and low explosives; pyrotechnics; and substances

associated with the foregoing that present real or potential hazards to life or property. The term includes any device or assembly of devices which contains an explosive material. Examples are: bombs, guided or unguided; water and land mines; depth charges; non-nuclear warheads; explosive-loaded projectiles; explosive components of aircrew escape systems; missile propellants; unguided missiles; pyrotechnic illuminating and signaling devices; and cartridge-actuated tools, such as stud drivers.

2. Chemical Agent. A chemical compound intended for use in military operations, to kill, seriously injure, or incapacitate man through its chemical properties. Excluded are riot control agents, chemical herbicides, smoke and flame. For the purpose of this Instruction, pesticides, insecticides, and industrially manufactured chemicals, unless selected by DoD Components for chemical warfare purposes, are also excluded.

R. Explosives/Chemical Agent Mishaps.

- 1. Explosive Mishap. An unplanned explosion or functioning of explosive material or devices except during combat. This includes inadvertent actuation, jettisoning, release or launching of explosive devices. It also includes mishaps that result from off-range impacts of ordnance. Dummy (inert) ordnance shall be considered as an explosive device any time it is used in training or test situations to simulate an actual item.
- Chemical Agent Mishap. Any unintentional or uncontrolled release of a chemical agent when:
 - Damage occurs to property from contamination, or costs are incurred for decontamination.
 - b. Individuals exhibit physiological symptoms of agent exposure.
 - c. The agent quantity released to the atmosphere is such that a serious potential for exposure is created by exceeding the applicable maximum allowable concentration-time levels for exposure of unprotected workers or the general population.
- S. <u>Guided Missile</u>. All missiles propelled through air or water which are unmanned, guided by internal or external systems, and self-propelled. The term includes individual major missile components such as stages, guidance and control sections, payloads other than nuclear reentry vehicles; system equipment required to place the missile in an operational status while at the launch or launch control facility or on the launching aircraft; and system equipment required to launch and control the missile. Examples are: intercontinental ballistic missiles; surface-to-air, air-to-air, and air-to-surface guided missiles; topedoes; and remotely piloted vehicles. The term

includes all missiles that are:

- 1. Owned in part or in whole by a DoD Component.
- 2. Operationally controlled by a DoD Component.
- On bailment or loan to a non-DoD agency for modification, test or experimental project for the Component.
- 4. Under test by a DoD Component.
- T. <u>Guided Missile Mishap</u>. A mishap involving guided missiles or missile support equipment except when in transportation or storage. (NOTE: The provisions of enclosure 8 apply for missile mishaps involving the explosive components of a guided missile.)
- U. <u>Ground Mishap</u>. A mishap resulting from DoD operations not specifically defined in other categories. It contains the following subcategories:
 - 1. Government motor vehicle (GMV) mishap, as defined below.
 - 2. Fire, as defined below.
 - 3. Combat training mishap as defined below.
 - Other ground mishap (includes all other onduty ground mishaps, and consists primarily of mishaps in industrial type environments ashore).
- V. Government Motor Vehicle. A motor vehicle which is owned, leased or rented by a DoD Component (not individuals); primarily designed for over-the-road operations; and whose general purpose is the transportation of cargo or personnel. Examples of Government motor vehicles are: passenger cars, station wagons, ambulances, buses, motor cycles, trucks and tractor-trailors. The following are not considered Government motor vehicles for the purpose of this Instruction:
 - Motor vehicle equipment designed primarily for off-the-highway operation such as tracked or half tracked vehicles, forklifts, road graders, agricultural type wheeled tractors, and aircraft tugs. (These vehicles are categorized as special purpose or combat vehicles according to their use.)
 - Vehicles on memorandum receipt to, and operated by, non-DoD persons or agencies and activities such as the U.S. Postal Service or the American Red Cross.
- W. Government Motor Vehicle Mishap. A mishap involving the operation of a Dob motor vehicle, being operated as such at the time of the mishap.

- These mishaps include: collisions with other vehicles, objects
 or pedestrians; personal injury or property damage due to cargo
 shifting in a moving vehicle; personal injury in moving vehicles
 or by falling from moving vehicles; towing or pushing mishaps;
 and other injury and property damage as described under the
 term mishap.
- The following mishaps, although reportable and accountable are not considered as motor vehicle mishaps. They are accountable under other ground categories.
 - a. Personnel injuries that occur while loading or unloading, mounting or dismounting a motor vehicle which is not moving.
 - b. Cargo directly damaged by weather.
 - c. Damage to a properly parked DoD vehicle unless it is damaged by another DoD vehicle.
 - d. Damage to a DoD motor vehicle resulting solely from natural phenomena.
 - e. Damage to a DoD motor vehicle being handled as a commodity and not being operated under its own power.
 - Damage to a DoD motor vehicle caused by objects thrown or propelled into it.
 - g. Damage to a DoD motor vehicle by fire when no DoD motor vehicle accident occurred.
- X. Fire. A fire, or an explosion followed by a fire, which occurs in the ground category of mishaps. Property damage, injuries or occupational illnesses that are the result of a fire will be recorded in this subcategory in the DoD Consolidated Report of Injuries, Property Damage and Occupational Illnesses.
- Y. Combat Training Mishap. Ground mishap that involves peacetime military operations. The term includes anyone, or a combination of the following:
 - 1. Combat Vehicle, Equipment Damage. Damage to combat equipment or vehicles such as tanks, self-propelled gun mounts, armored carriers, amphibious vehicles ashore, field communication equipment, etc., in the course of operational training.
 - Combat Training Injuries. Personal injuries resulting from unique military training activities such as maneuvers, field training, military parachute or survival training.
- Z. <u>Miscellaneous DoD Mishap</u>. Mishaps that are not the result of a DoD operation but which involve DoD injuries/occupational illnesses

and/or damage to DoD property.

- Private Motor Vehicle Mishap. A traffic mishap regardless of the identity of the operator, which does not involve a government motor vehicle but results in: A fatality or lost workday case injury (involving days away from work) to military personnel, on or off duty; or reportable damage to DoD property. Note: Components will maintain a separate listing of private motor vehicle mishaps involving vehicles used for official business for which the owner is reimbursed (excluding vehicles used for permanent transfers.)
- 2. Off Duty Military Mishap. A mishap ashore, other than PMV, that results in a fatality or a lost workday case injury involving days away from work, to DoD military personnel during offduty activities, whether or not on a DoD installation.
- 3. Contractor Mishap. A mishap resulting from contractor operations which results in injury/illness to DoD personnel or damage to DoD property. Note: Injury or damage to contractor personnel or equipment is not included, but are reported in the private sector OSHA system.
- AA. Department of Labor (OSHA) Causal Factor. OSHA terms to be used in the analysis of mishaps in applicable workplaces required in enclosure 7.
 - Unsafe Equipment Factors. Insufficient safety and health consideration in design, manufacture, or repair of machinery, equipment, facility, tools, etc. Use this reason to identify errors in design, planning, or construction. Examples: Unguarded nip points; congested layout; inferior equipment; etc.
 - 2. Inadequate Preventive Maintenance Program. Machine, equipment or facility maintenance. Examples: oil or grease leaking from machinery, temporary wiring, sling maintenance, broken ladder, etc.
 - 3. Improper Operating Procedures. Lack of adequate job instructions (procedures for operating a machine or accomplishing a job assignment). Examples: failure to identify and/or prescribe protective equipment, etc.
 - 4. <u>Insufficient Training</u>. Lack of job training or work experience at present job assignment. Examples: not working in regularly assigned job, little experience at present job, skilled job which requires more training than employee possesses.
 - Physiological Factors. Less than normal physical or mental functioning of an employee. Examples: fatigue, temporarily ill, taking medication, under the influence of alcohol, drugs, etc.

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- 6. Unsafe Work Practice. Failure to follow prescribed practices intended to protect employee from physical harm. Examples: operating machinery or equipment at excess speeds, using short-cut methods, not wearing prescribed personal protective equipment, etc.
- BB. Crane Lift, etc. For purposes of this Instruction: Overhead and gantry cranes as defined in OSHA Standard 1910.179; crawler, locomotive and truck cranes as defined in OSHA Standard 1910.180; and derricks as defined in OSHA Standard 1910.181.

NON-JUDICIAL PUNISHMENT (NJP)

I. Description of Information

a. Overview

Minor disciplinary offenses which fall under Article 15 of the Uniform Code of Military Justice (UCMJ) comprise the data base.

b. Examples of Variables Contained in Preliminary Inquiry Report Reported by Offense

1. Descriptive Information

Name of accused

Serial number and rank

Rate/Grade

Place of offense

Date of offense

Details of offense

2. Information Concerning Accused

Current enlistment date

Expiration current enlistment date

Total active Naval service

Total service on board

Education

GCT

Age

Marital status

Number of dependents

Contribution to family or quarters allowance

Pay per month

Record of previous offenses

3. Recommendation as to disposition

Mast

Court Martial

No punitive action

Other

4. Action taken by Executive Officer

Dismissed

Referred to Captain's Mast

5. Action by Commanding Officer

Dismissed

Dismissed with warning (not NJP)

Admonition

Reprimand

Restriction

Forfeiture of pay

Confinement

Correctional custody

Reduction in grade

Extra duty

Suspended punishment

Article 32 investigation

Recommended for trial by General/Special/Summary-Court Martial Supplemental Report to Criminal Activity, Disciplinary Infractions and Court-Martial Report (RCS JAG 5800-4B). Summary for Unit.

6. Number of non-judicial punishments and civil convictions

CONUS (Continental United States)

Overseas

Total NJP

- 7. Drug and marijuana offenses Articles 92.4 and 134.16 UCMJ

 Total number accused

 Total number of articles
- Discharges executed

c. Source of Information

Original Data Base

Information is initiated at the unit level by authorized personnel.

2. Edits on Data

Not applicable.

3. Form in which Data are Presently Available

Reporting forms are available from the Type Command.

4. Lag-time

A lag results from time differentials between the time of the offense and the end of six-month reporting periods. Offenders normally go to mast 10 days to two weeks from the time of the offense. Those individuals charged with unauthorized absences normally go to mast within 48 hours. Reports such as RCS JAG 5800-4B are to be submitted within five working days following the end of six-month reporting periods. Thus, there can be a relatively long delay.

II. Psychometric Properties

a. Areas of Most Confidence

Personnel at the Naval Personnel Research and Development Center have worked extensively with NJP data contained in the 6 month summary reports, and are reasonably confident that such data might be employed to identify HRM needs.

b. Potential Sources of Bias and Problems

- 1. Accuracy depends on conditions within a command (i.e., problems may be settled more informally on some ships than on others).
- 2. There is a separate form submitted for each offense; therefore, one individual could have considerable influence on a particular organization's number of reports.
- 3. The relatively small numbers of offenses involved result in small samples for analysis purposes.
- 4. There may be instances when multiple offenses are committed by a single individual, which will bias the information within a single group.
- 5. Reportedly, the rate of unauthorized absences varies according to the deployment schedule.

IV. Attachments

Preliminary Inquiry Report
Supplemental Report

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RCS JAG 5800-4B

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SERVICE HISTORY FILE FOR ENLISTED PERSONNEL (CHANGE TAPE)

I. Description of Information

a. Overview

The Service History File for Enlisted Personnel, or Change Tapes, are maintained by the Naval Health Research Center (NHRC), San Diego, California. The Change Tapes are based on extracts from the Management Information System for enlisted personnel, and include changes in status such as promotions, demotions, dependents, etc. Biographical information such as date of birth, GCT, education, prior military service, etc., are also included. The Change Tapes were initiated in 1965, and are now updated approximately quarterly. The data are sequenced by social security number. The Service History file contains:

- 1. An initial record reflecting status at the time of entering active service (first change)
- 2. The most recent record reflecting current or service discharge status (based on the most recent change)
- 3. A summary of all changes that transpired between the initial record and the most recent record.

b. Examples of Variables

- 1. Sex
- 2. Race
- 3. Date of birth
- 4. Education
- 5. Aptitude scores
- 6. Number of dependents

- 7. Not recommended for reenlistment
- 8. Marital status
- 9. Promotions
- 10. Demotions
- 11. Unauthorized absences
- 12. Reenlistments
- 13. Occupational specialty

c. Sources of Information

1. Original Data Base

The original data base is provided by the Bureau of Naval Personnel.

NHRC extracts a 120 character record from a copy of this data base which
is made available by the Naval Personnel Research and Development Center,

San Diego.

2. Edits on Data

NHRC conducts an extensive set of edits on the data.

3. Form in which Data are Presently Available

The data are stored on computer files, accessible by social security number.

4. Lag-time

The lag-time between a personnel change and the representation of such change on the Change Tapes is approximately six months, although it could be longer.

II. Psychometric Properties

a. Areas of Most Confidence

Confidence is placed in the data due to the extensive amount of editing.

The data have also been employed in a number of research studies where significant results were obtained, thus indicating reliability.

b. Sources of Potential Bias and Problems

- 1. Delay between actual changes and their representation on the tapes.
- 2. It was not possible to identify unique duty stations for personnel in the early stages of the tape development. However, it is possible to ascertain current duty stations as well as duty stations associated with specific changes from July 1973 forward. A ship location code is also included.
- 3. The category codes have been changed on some variables over time (i.e., race).

III. General Remarks

The Change Tapes appear to be a meaningful and accessible source for obtaining a considerable amount of personnel information that should be relatively accurate.

MEDICAL HISTORY FILE

I. Description of Information

a. Overview

The file includes information for any individual, officer or enlisted, ever hospitalized since July, 1965. The data tapes are developed and maintained by the Naval Health Research Center (NHRC), San Diego, California. The data include hospital discharge records, in which all records for one hospitalization are combined, a medical history, summary, medical board evaluations, and physical evaluation board actions. The files are updated periodically.

b. Examples of Variables

Biographic Information (e.g., race, age, sex, length of service)

UIC prior to July, 1972

Days hospitalized

Primary discharge diagnosis

Additional diagnoses

Date of medical board

Findings of medical board

Medical disability rating

Number of hospitalizations

c. Sources of Information

1. Original Data Base

Raw data are maintained at the Naval Medical Data Services Center, Bethesda, Maryland.

2. Edits on Data

Data are edited by the Naval Medical Data Services Center. NHRC also performs edits to check the consistency of data that are common to the medical tapes and the Service History Change Tapes.

3. Form in which Data are Presently Available

Data are stored on computer files at NHRC.

4. Lag-time

Lag-time can be substantial because the information comes from several sources.

II. Psychometric Properties

a. Areas of Most Confidence

As with the Change Tapes prepared by NHRC, the data are presumed to be relatively accurate and reliable. Furthermore, the data have been employed in research studies in which significant results were obtained.

b. Sources of Potential Bias and Problems

- 1. Lag-time
- 2. It is not possible to identify unique duty stations after June, 1972.

III. General Comments

The Medical History Tapes appear to be a meaningful and accessible source for obtaining an extensive amount of information.

PROPULSION EXAMINING BOARD (PEB)

I. Description of Information

a. Overview

The Propulsion Examining Board (PEB) is composed entirely of officers responsible for conducting readiness inspections on designated ships. The following two types of examinations are conducted: The Light-Off Exam (LOE) and the Operational Propulsion Plant Exam (OPPE). The LOE must be satisfactorily completed before the ship completes overhaul or whenever the propulsion system has not been operated for a period of four or more months. The OPPE is conducted every 15 months (± 3 months), and is designed to determine the condition of the propulsion system in six areas of readiness.

b. Examples of Variables

- 1. Engineering Administration
- 2. Level of Knowledge
- 3. Preservation and Cleanliness
- 4. Material Condition
- 5. State of Training
- 6. Boiler Flexibility

Ratings are given in each area according to three categories of adequacy: satisfactory, conditional, and unsatisfactory.

The initial LOE includes only elements on engineering administration, level of knowledge, material condition, and preservation and cleanliness.

The OPPE, however, addresses all six of the above areas.

c. Sources of Information

1. Original Data Base

Information is collected on the ship by the Propulsion Examining Board and transmitted to the PEB office in the Type Command.

3. Forms in which Data are Presently Available

Data are classified.

4. Lag-time

A message is transmitted immediately upon completion of the examination. A letter report followup is provided at a later date, and may take several weeks or months.

II. Psychometric and Confidence Properties

a. Areas of Most Confidence

Areas of greatest confidence are those that identify critical aspects of the ship with respect to whether or not the ship should deploy.

b. Sources of Potential Bias and Problems

The scoring guidelines were developed by the CNO; however, the judgments are subjective and may be related to the experiences of the board members.

Biases could thus be a function of different experiences of the individual board members.

III. General Remarks

Some of the older ships in the fleet have not entered the PEB program. It is believed, however, that only a few ships are not included at this time.

RETENTION DATA

I. Description of Information

a. Overview

Retention information is obtained from a one page report, submitted by each organization's career counselor to the Data Processing Systems Center at Norfolk, Virginia. Information from the Reenlistment/Retention report is extracted, keypunched, and tabulated. Tabular reports (RCS 1133-1) are forwarded to the retention office in the Type Commands and subsequently to the Fleets. Information provided in the report includes categories of reenlistment status, the gross percentage of reenlistment, and the net reenlistment percentage. RCS report 1133.3 contains this information and is distributed on a monthly basis. Other tabulations are prepared for six month intervals, where the reenlistment data for the prior month is added to the five previous months, thus providing a six-month cumulative summary of the status of retention on the ship. The six-month report (RCS 1133.7) provides a short term indication of trends in retention. A twelve-month summary (RCS 1133.7A) is also available. Additional reports of special interest are available which cover retention of categories of persons. For example, report RCS 1133.2A provides ship's retention data on fiscal year-to-date, by rate.

b. Examples of Variables

Discharge code

Sex

Pay grade

Rate

Navy enlisted classification

Method of reenlistment

First term

Second term

Career

Service status

Years of service

Eligibility for reenlistment

Race

c. Sources of Information

1. Original Data Base

Data are recorded in the organization.

2. Edits on Data

Edits are performed to identify items such as erroneous time and ratings, sex, and other mismatches which can be detected by computer.

3. Form in which Data are Presently Available

Information is stored on computer files at the Data Processing Center. The RCS reports are maintained by the Type Commands and the Fleets.

4. Lag-time

Lag-time to Type Commands is about three weeks after the end of the monthly reporting period.

II. Psychometric Properties

a. Areas of Most Confidence

Accuracy of the data is considered to be relatively good, particularly for the ships with the highest and lowest retention rates. There are, of course, opportunities for input and keypunch errors, especially since large numbers of cards are submitted each month. In addition, retention inspections are conducted

wherein a diary report is maintained for a 30 day period and results are compared with the statistics contained in the printouts. An award is given by the Admiral to top performers, and there is strong motivation to be accurate. That is, challenge of a ship's position can be made, resulting in an audit.

b. Sources of Potential Bias and Problems

There is a competitive desire to have a high retention rate on each ship. However, there are several checks in the system to preclude unwarranted results. Since considerable attention is focused on the top and bottom performers, biasing errors would most likely be in the middle group. In addition:

- data may vary because of outside employment opportunities;
- credibility of benefit programs may, during publicity on cost of retirement and other benefits, change the retention climate;
- there are likely to be slips in retention about two months prior to deployment--also, an increase in unauthorized absences, desertions, and release of marginal performers;
- retention rates may go up while deployed;
- retention rates cycle throughout the season with lows in September and higher retention rates in November, December, March, and April;
- retention rates tend to vary with changes in command;
- reenlistment rates might improve because reenlistment provides a chance to choose a different assignment.

III. General Remarks

There was a lack of agreement among knowledgeable Naval personnel with respect to whether there are identifiable reenlistment trends resulting from differences in unit size, age, mission, deployment, or inspection schedules.

Comparisons are made with other ships of type and with the same ship at earlier points in time. Comparisons are made relative to the baseline, and take into account (subjectively) the time of year (i.e., "retention is okay considering it's September"). Statistical adjustments for seasonal variations, however, have not been made.

There is agreement that command is related to retention. It is hypothesized that retention may go up on a "happy" ship when deployed but not go up on an "unhappy" ship. There is a lack of agreement with respect to the time required for a change in command to result in changes in retention. Recent research by Human Resource Management personnel has indicated an association between retention variables and HRM survey data. Additional research in this area appears useful.

Some definitions and procedures vary between the Atlantic and Pacific Fleets, and the shore commands.

IV. Attachments

RCS CINCLANTFLT 1133-1

THIS DOCUMENT IS A DIRECT INPUT DATA SHEET. ACCURACY AND LEGIBILITY ARE A MUST. FILL IN APPROPRIATE BLOCKS BELOW USING CODES AS PROVIDED. LEAVE NO BLANKS UNLESS SO INDICATED. (*) ITEM WHICH CAN BE 132 UNIT IDENTIFICATION CODE TRANSACTION DISCHARGE CODE RATING ONLY (E.G. 00614-ASK CAREER ENTER YOUR STATUS ENTER YOUR STATUS E.G. AMH/BT/ASE M= MALE COUNSELOR FOR UIC) D = DISCH/RELEASED/ I = REEN ELIGIBLE HT/BU. DO NOT F = FEMALE F= FLT RES Z= HUM/MED/ADMIN FLT RES ENTER AMH 2/BTC/ (DO NOT UNIT NAME (COMMAND) R = REEN/OR EXT FOR HTCM/ASE 3, ETC. LEAVE BLANK) 2 OR MORE YEARS 9= NOT ELIG (PAY GRADE EN-TERED-BLOCK 12) PAY GRADE NEC YEARS SERVICE PROGRAMMER DATA FLEET SURVEY TO COMPLETE REFER TO CURRENT ENTER YOUR E.G. - ROUND OFF TO LEAVE BLANK IN ALL E.G. CINCLANTFLTINST 1133.1 COUNSEL-NEAREST YEARS ACTIVE PRIMARY NEC CASES. USED BY DATA 1 = 61 OR WILL ADVISE WHEN REQUIRED. PROCESSORS FOR UNIT 3 = E3 IF HELD. NO DUTY 05 = 5 YRS 5 MOS GROUPING PURPOSES. 5 = 65 PRI, ENTER 06 = 5 YRS 6 MOS 9 = E9 SECONDARY NEC. IF NO PRI 12 = 11 YRS 6 MOS (ENTER I-(ASK FOR HELP IF 9 ONLY) OR SEC. ENTER 0000. REQD) DATE OF DATA RE CODE MARITAL STATUS METHOD OF REENLISTMENT ENTER YOUR STATUS-E.G. ENTER 0678 FOR ENTER-ENTER-JUNE 78, 1079 FOR OCT I = STAR RI = RE-RI S = SINGLE 2 = SCORE 79, MONTH-YEAR YOU IR = RE-I M= MARRIED D = DIVORCED OR SEPARATED 3 = CHOICE OF DUTY REENLISTED OR R2 = RE-2 SEPARATED. ACTUAL 4 = 2.3. OR 4 YRS (FOR STATISTICAL PURPOSES R3 = RE-3 5 = 5 OR 6 YRS MONTH OF TRANS-3R = RE-3R ONLY.) 6 = GUARO II ACTION. R4 = RE-4 7 = 2 YR EXTENSION (ASK COUNSELOR TO 8 = OTHER PROGRAM ASSIST) SERVICE STATUS TYCOM CODE UNIT FORM CONTROL NO. DELETION CODE ENTER YOUR STATUS-A = COMNAVAIRLANT COUNSELOR WILL ENTER - D FOR DELETE I = REGULAR USN B = COMNAVSURFLANT ENTER 3-DIGIT FORM WILL BE COMPLETED BY CAREER COUNSELOR FROM INFORMATION 2 = USNR ON ACDU C = COMSUBLANT CONTROL NUMBER 3 = 6 YR OBLIGOR E = COMOCEANSYSLANT E.G.-001-999 (ENTER 000 PROVIDED BY (4 YRS SERVICE WITH 2 YR F = COMTRALANT CINCLANTFLTINST 1133.1 IF TRANSACTION EXT AT TIME OF ENTRY J = COMCBLANT CHARGED BACK TO (IST) USN.) L = CINCLANTFLT, ANOTHER UNIT.) DIR REPORTING ACTIVI-TIES

COMMENTS

SUMMARY AND CONCLUSIONS

The objective of this project was to examine the feasibility of employing data from existing Navy records and data bases to identify HRM needs and to serve as indicators of operational readiness. The data reviewed appeared to be meaningful and logically useful for these purposes, although each set of data possessed certain strengths and weaknesses. To say with confidence that the data reviewed should in fact be employed as indicators of HRM needs and operational readiness would be premature at this time. As noted below, empirical research is needed. However, the goal of this project was, in essence, to ascertain whether it would be worthwhile to engage in additional research. The conclusion of this feasibility project is that it would be worthwhile to engage in additional research and attempt to adopt at least selected portions of the data sets reviewed, as indicators of HRM needs and operational readiness.

Several general recommendations are offered below regarding directions that the empirical research might take. First, however, it was considered appropriate to provide summary comments regarding the results of the feasibility study. Of initial importance is the fact that a tremendous number of different types of data and reporting procedures have been developed to fulfill specified functions of importance to the Navy, and a body of experience has been accumulated by those who work with each particular data set regarding its strengths and weaknesses. Because it would be prohibitively expensive and time consuming to attempt to duplicate what is already being done, every attempt should be made to use existing information and knowledge regarding the reliability and validity of the data sets.

Second, no general statement can be made at this time regarding the reliability and validity of the data sets reviewed. Some data sets, such as the Service History File for Enlisted Personnel (Change Tape) (Naval Health Research Center), have been subjected to extensive edits and have been shown to provide meaningful results in various research projects. Other data sets, such as the PMS Performance Rate completed as part of the 3-M preventive maintenance program, reflect an awareness of possible lack of objectivity in some reporting systems as well as a management-implemented system of checks and balances. Nevertheless, for other data sources, such as CASREPTs and 2-Kilo reports, additional research is required to establish reliability estimates.

Third, and finally, the question of employing existing records and data as indicators of HRM needs and operational readiness is not new. For example, such systems as NAVFORSTAT, CASREPTS, and the 3-M system were designed specifically to provide indicators of operational readiness. Moreover, information such as the "reason codes" associated with NAVFORSTAT reports and the 2-Kilo reports, if reliable and valid, should provide highly significant information with regard to the needs and design of HRM programs. This has been recognized, and research has been completed, or is underway, at a number of locations, to examine existing Navy data with respect to their reliability and validity as operational readiness indicators and/or indicators for HRM needs. The locations include the Navy Personnel Research and Development Center; the Naval Health Research Center; the Naval Safety Center; the Center for Naval Analysis; the Naval Fleet Material Support Office; the HRM Detachment, Mayport, Florida; the Institute of Behavioral Research, Texas Christian University; and the Institute for Social Research, University of Michigan. Prior to engaging in

new research, reports from these various organizations should be reviewed from the perspectives of both avoiding redundancy and identifying potentially fruitful directions for future research.

With respect to future research, the following recommendations are considered appropriate.

1. As part of the present project, an attempt was made to identify important components of operational readiness and needs for HRM programs. Source materials included Bowers, Franklin, Drexler, and Wissler (1974), Crawford and Thomas (1975), Bowser (1976), La Rocco, Pugh, and Gunderson (1976), and Marriott (1977).

The data sets examined here were selected primarily on the basis of the above source materials. However, as part of a future research program, a more extensive effort is needed to define specifically the components of operational readiness that are regarded as important to the Navy. The same is true with respect to identifying more clearly the goals and objectives of the HRM programs. Moreover, this procedure should focus on developing empirically quantifiable measures of the extent to which the needs, goals, and objectives of operational readiness and HRM needs have been satisfied.

- 2. Assessments of the validity with which the data measure what they were designed to measure and the degree to which the data are reliable over time are of paramount importance. Extensive on-site reviews of the entire reporting process are indicated, and controls for potential biasing aspects in the data should be provided.
- 3. Empirical estimates of the relationships among data that should be related will provide important clues regarding validity and reliability. For example, data bases that seem most likely to exhibit relationships are

indicated with a check-mark (ν) in Table 1 below. Check-marks in the diagonals of the table reflect reliability estimates over time; X marks indicate data might be related.

Table 1.

Data Bases and Their Potential Interelationships

	CASREPT	Ships 3-M	3-M Aircraft	Accident & Safety	NJP	Service History	Medical History	PEB	Retention
~									
~	1								
~	1	~							
			7						
V	V	~	~	1					
					7				
х	x	х	х	~	V	V			
				~		V	V		
V	V	~		V				V	
					V	-	~	~	~

- 1. NAVFORSTAT
- 2. CASREPT
- 3. Ships 3-M
- 4. 3-M Aircraft
- 5. Accident & Safety
- 6. NJP
- 7. Service History
- 8. Medical History
- 9. PEB
- 10. Retention

Documents that govern reporting of NAVFORSTAT information indicate a requirement to make some NAVFORSTAT C-ratings consistent with C-ratings assigned to casualty reports (CASREPTs). In other instances, there are logical associations, such as those between accident/safety information and medical history information. Here one would expect that information reported as accidents resulting in personal injuries could also be tracked through medical or hospitalization records.

- 4. Of particular importance to future research endeavors would be the design of a model data gathering and presentation system in which the information needed by Commanders and planners at different operating levels could be provided to indicate HRM needs/operational readiness. The design of such a system should consider the following:
 - (a) The level of the unit on which analysis of the data would be reported. This might include division/departments within organizations, the organization, squadrons, Type Commands, and so forth. Other considerations might include the anticipated use to be made of the data at various organizational levels and the integration of data from different categories, such as relationships between meeting operational commitments and retention rates;
 - (b) The Lag-time between the occurrence of an event and time that data representing the event are included in the reporting system;
 - (c) The accessibility of data from different data sources. For example, machine-readable data could be stored on tapes and adapted for reporting purposes; this may constitute an advantage over systems that begin with "raw reports" and then go on to keypunching or optical scanning of the information;
 - (d) Security issues, where, for example, the data are classified confidential or higher and require special handling procedures to gain access.

In conclusion, the design and implementation of research designed to develop a central system for reporting indicators of HRM needs/operational readiness will be a herculean task that would be both time-consuming and expensive. Nevertheless, the task has a strong likelihood of being beneficial to the Navy in several important ways above and beyond identifying indicators

of HRM needs/operational readiness. For example, one outcome of such research would be the empirical assessment of the reliability and validity of current reporting systems for the data collected. In addition, the importance of the research recommended is indicated by the fact that various pieces of this research have already been initiated by Navy personnel and civilian scientists associated with Navy research. No guarantee can be offered that the research would be significantly productive, but such an effort would appear to have a reasonable likelihood of benefiting the Navy.

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